TEXTILE WORLD

A McGraw-Hill Publication ..... JULY • 1953

CONTROLLED WINDING MEANS BETTER DYEING

Starts on page 90

IN THIS ISSUE:

It's Time To Go To Work (Editorial).. 4
A Suggestion System That Works.... 87
Controls Make Winding, Dyeing Uniform 90
Mooresville's Multifiber Program.... 92
Knitting Oil Stains Cut 75%..... 94
Control Records Prove Out Inventory 95
Woolen-Yarn Processes Streamlined. 96
How To Protect Against Lightning... 98
New Method Improves F-F. Seams...100
Avondale's Nonwoven Fabrics.....102
Spinning Subjects at Georgia TOE....104
Remedies for Streaky Tricot Fabric..108
Make Colors Washable for Woolens...110
How Mills Use Glass Insulation.....112
Sycamore Reduces Waste.....114
Slasher Equipment Shows Improvements 116
Device for Reducing Shrinkage.....118
Materials-Handling Show.....119
Standardize Your Shuttle Size.....127
How To Run Nylon, Orlon, and Decron.128
Interpreting Machine Variations.....130
Cut Loss of Spinnable Cotton.....133
Winding Nylon 135
How To Choose Textile Fungicides...137

☆

PRICE 35 CENTS PER COPY

☆

INDEX to ADVERTISERS
Keyed by PRODUCTS
See Page 275

If you're thinking of a new mill

Advanced textile mill designs such as this are not just dreams.

Many practical textile innovations on our drawing boards today will soon be in operation for far-sighted textile firms in many fields. These streamlined designs and plans for machinery and mills all have one goal in common—lower production costs!

The same cost-cutting principles used in designing new textile projects can be modified to fit the modernizations of existing facilities, large or small, with essentially the same results.

Modern textile engineering may be your answer to growing costs and reduced profits.

here's a good starting point

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

Serving the Great Names in Textiles for Over 38 Years

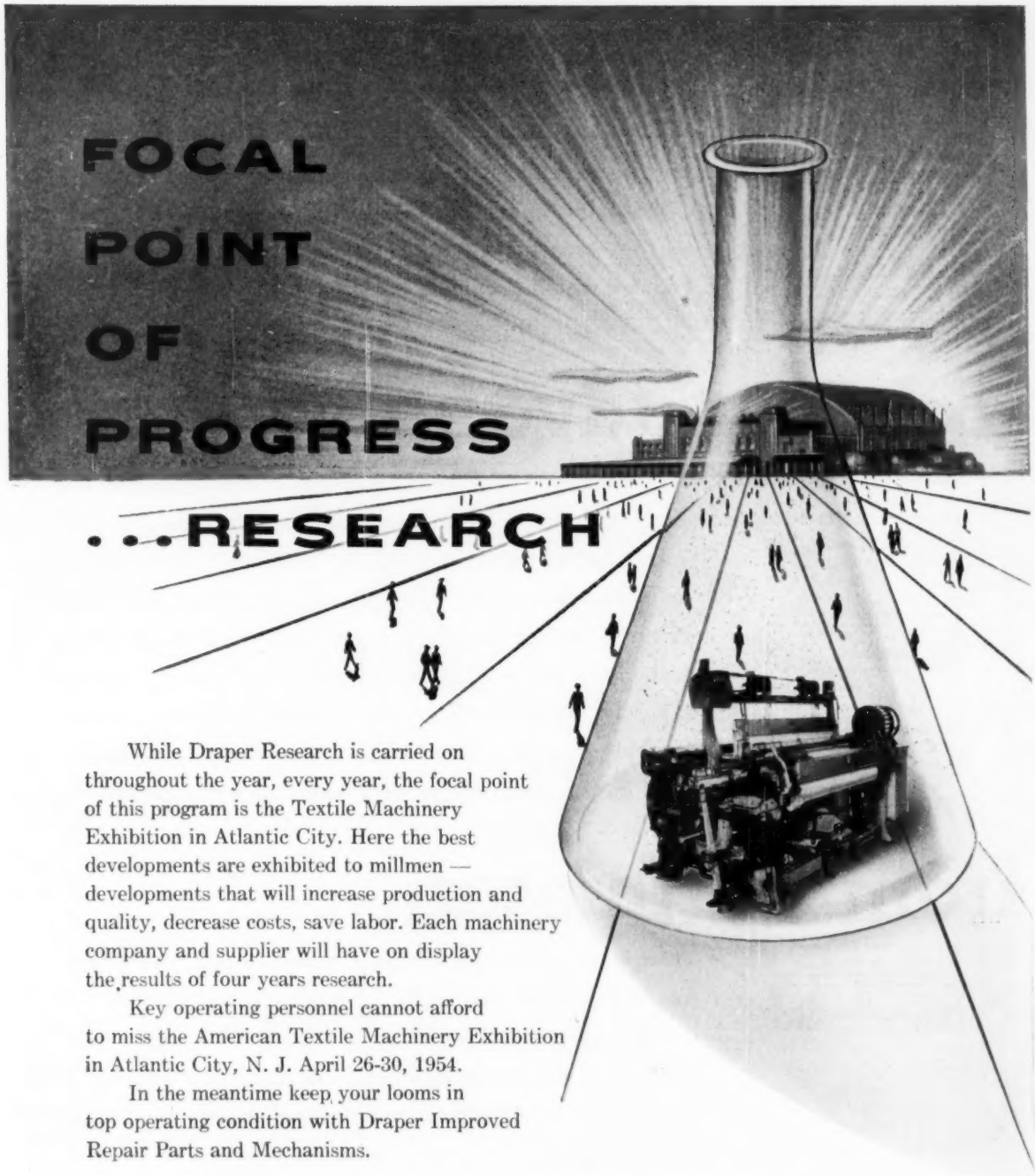
Alabama Mills, Inc.
American Bemberg Corp.
Cabin Crafts, Inc.
Chicopee Manufacturing Corporation
Cluett, Peabody & Co., Inc.
Crompton Company
Crystal Springs Bleachery
Davenport Hosiery Mills
Dixie Mercerizing Co.
B. F. Goodrich Company
The Goodyear Tire and Rubber Company
Marshall Field & Co., Inc.
Mt. Vernon-Woodberry Mills, Inc.
Muscogee Manufacturing Co.
Peerless Woolen Mills
Pepperell Manufacturing Co.
Standard-Coosa-Thatcher Co.
Swift Manufacturing Co.
Swift Spinning Mills
The Springs Cotton Mills
Thomaston Mills
United Merchants & Manufacturers Co., Inc.
West Point Manufacturing Company

TEXTILE WORLD, Vol. 103, No. 7, July, 1953. Published monthly McGraw-Hill Publishing Co., Inc., (Bragdon Lord & Nagle Division). Publication Offices, 99-129 North Broadway, Albany, N. Y. Editorial and Executive Office, 330 W. 42nd Street, New York 36, N. Y.

Subscriptions: Address correspondence to TEXTILE WORLD—Subscription Service, 99-129 North Broadway, Albany 1, N. Y., or 330 West 42nd Street, New York 36, N. Y. Allow ten days for change of address.

Subscriptions are solicited only from executives, engineers and technicians in textile manufacturing or finishing plants. Position and company connection must be indicated on subscription orders.

Subscription: United States and possessions, $3.00 a year, $4.00 for two years, $5.00 for three years. Canada, $4.00 for one year, $6.00 for two years, $8.00 for three years. Other Western Hemisphere, $10.00 for one year, $16.00 for two years, $20.00 for three years. All other countries $15.00 for one year, $25.00 for two years, $30.00 for three years. Entered as second class matter August 29, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in USA. Thirty-five cents per copy.



While Draper Research is carried on throughout the year, every year, the focal point of this program is the Textile Machinery Exhibition in Atlantic City. Here the best developments are exhibited to millmen — developments that will increase production and quality, decrease costs, save labor. Each machinery company and supplier will have on display the results of four years research.

Key operating personnel cannot afford to miss the American Textile Machinery Exhibition in Atlantic City, N. J. April 26-30, 1954.

In the meantime keep your looms in top operating condition with Draper Improved Repair Parts and Mechanisms.

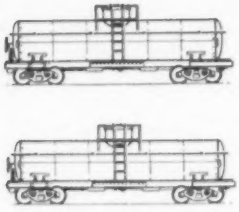
"Retaining Leadership through Research"

DRAPER CORPORATION

ATLANTA, GA. HOPEDALE, MASS. SPARTANBURG, S.C.

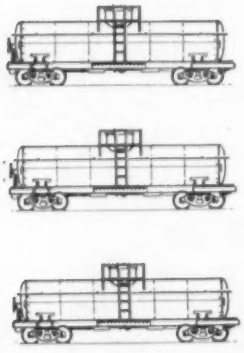
For more information, write direct or use Reader Service post card.

buying caustic soda



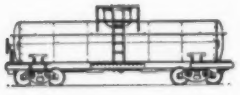
Purity was a special problem to a company manufacturing rayon and other synthetic fibers. They needed caustic that was exceptionally clear in solution and contained a very low metallic content.

to better advantage



They found that Mathieson could supply caustic to their specifications; they found in addition, certain advantages of definite benefit to their operations. Deliveries were reliable due to Mathieson's diversified production facilities. Mathieson Technical Service was available for assistance with any production problem. And, as a major producer of soda ash, chlorine, ammonia, sulphuric acid, bicarbonate of soda, sodium chlorite, hypochlorite products, and ethylene derivatives, Mathieson could furnish many of their other essential raw materials.

from Mathieson



These same advantages will be of benefit to you. You'll be sure of top-quality chemicals . . . multi-plant production facilities provide dependability . . . integrated delivery system assures on-time schedules. You'll find you can buy chemicals to better advantage—at any time—by consulting with Mathieson.

1522A

caustic soda • soda ash • liquid chlorine
sulphur • sulphuric acid • bicarbonate of soda
ammonia • sodium nitrate • sodium chlorite
hydrazine • sodium methylate • nitric acid
hypochlorite products • ethylene derivatives
dry ice and carbonic gas • methanol
ammonium sulphate

MATHIESON

MATHIESON CHEMICAL CORPORATION
Mathieson Industrial Chemicals Division
Baltimore 3, Maryland

For more information, write direct or use Reader Service post card.

TEXTILE WORLD

PUBLISHED MONTHLY

A McGRAW-HILL PUBLICATION

Member of Associated Business Publications and Audit Bureau of Circulations

Edwin D. Fowle . . . . *Publisher*

Greenville Staff

Prentice M. Thomas . . . . . *Editor-in-Chief*
James H. Kennedy . . . . . *Southern Editor*
Richard B. Pressley . . . . . *Assistant Editor*
Thomas B. Winston . . . . . *Assistant Editor*
James H. Blore . . . . . *Assistant Editor*

New York Staff

Richard C. Scott . . . . . *New York Editor*
George M. Moisson . . . . . *Assistant Editor*
Louise E. Wilie . . . . . *Production Editor*
Gloria J. Meeks . . . . . *Editorial Assistant*
Robert McK. Fink . . . . . *Art Director*

E. H. Helliwell . . . *Contributing Editor (New England)*
H. S. Knowlton . . . *Contributing Editor (Boston)*
J. K. Van Denburg, Jr. . . . *World News Editor*
George B. Bryant, Jr. . . . *Chief, Washington Bureau*
Dexter Keezer . . . . . *Economic Director*

Consulting Editors

C. Norris Rabold . . . . . *Finishing*
Francois E. Cleyn . . . . . *Worsted Spinning*
Gustav Zellnik . . . . . *Woolen Spinning*
Henry D. Grimes . . . . . *Wool Chemistry*
Eugene P. Schremp . . . . . *Weaving*
W. C. Westbrook . . . . . *Weaving*
R. P. Shapard, Jr. . . . . *Knitting*
H. B. LeFeaux . . . . . *Knitting*
William A. Newell . . . . . *Textile Research*

William Buxman . . . *Manager*

W. B. Dall . . . . . *Assistant to Manager*
Thomas Macaluso . . . . . *Production Manager*

PUBLICATION OFFICE: 99 N. B'way, Albany 1, N. Y.

EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42nd Street, New York 36, N. Y., 201 E. Coffee St., Greenville, S. C.

JAMES H. McGRAW (1860-1948), Founder.
CURTIS W. McGRAW, President.
WILLARD CHEVALIER, Executive Vice President.
HENRY G. LORD, Vice President.
JOSEPH A. GERARDI, Vice President and Treasurer.
JOHN J. COOKE, Secretary.
PAUL MONTGOMERY, Senior Vice President, Publications Division.
RALPH B. SMITH, Vice President and Editorial Director.
NELSON BOND, Vice President and Director of Advertising.
J. E. BLACKBURN, JR., Vice President and Director of Circulation.

DISTRICT OFFICES:

BOSTON 16, Ralph L. Chisholm, Dist. Mgr., 350 Park Square Bldg.
CHICAGO 11, M. C. MacKenzie, Dist. Mgr., 520 North Michigan Ave.
NEW YORK 36, Arch W. Fisher, Dist. Mgr., 330 West 42nd St.
John C. White, Jr., Dist. Mgr., 330 W. 42nd St.
PHILADELPHIA 3, H. C. Harvey, Dist. Mgr., Architects Building, 17th and Sansome Sts.
CLEVELAND 15, John G. Sabella, Dist. Mgr., 1510 Hanna Building.
GREENVILLE, S. C., and TRYON, N. C., Wm. G. Ashmore, Dist. Mgr., 201 E. Coffee St., Greenville, S. C., or P. O. Box 1327, Tryon, N. C.
WASHINGTON 4, National Press Building.
OTHER OFFICES: Atlanta 3; Dallas 1; Detroit 26; Los Angeles 14; St. Louis 8; Pittsburgh 22; San Francisco 4; London E.C. 4; Paris 7; Frankfurt; Rio de Janeiro; Buenos Aires; Mexico City; Manila; Tokyo; Bombay; Melbourne E. 4; Toronto 4.

Contents copyright 1953, by McGraw-Hill Publishing Co, Inc. (All rights reserved)

DEPARTMENTS

Editorial	4
Exploring the Textile Community	141
Kinks and Short-Cuts	162
Mill Maintenance	238
New Dyes and Chemicals	156
News About Men	261
News About Mills	254
News About Suppliers	246
News of the Month	240
Obituary	264
Pointers for Supervisors	139
Questions and Answers	160
Reader Service	175
Reviews of Books	236
Round Table	159
Textile Equipment News	143
Textile Calendar	242
Textile Tickles	159
Useful Accessories	232
Advertiser's Index	275

Table of Contents

JULY • 1953
Vol. 103 No. 7
KEYED ACCORDING TO READER INTEREST

SPINNER	WEAVER	KNITTER	FINISHER	ENGINEER			COTTON	SYNTHETICS	WOOL
					Feature Articles				
Y	W	K	F	E	It's Time To Go To Work (Editorial)	4	C	S	W
Y	W	K	F	E	A SUGGESTION SYSTEM That Works	87	C	S	W
	W		F	E	Controls Make WINDING and DYEING Uniform	90	C	S	W
	W				Mooresville's MULTIFIBER Program	92	C	S	
		K			LUBRICATING System Cuts Knitting Oil Stains 75%	94	C	S	W
	W	K	F		Let Control Records Prove Out INVENTORY	95	C	S	W
Y	W				Blanket Mill Streamlines YARN Processes	96		S	W
				E	How To Protect Against LIGHTNING	98	C	S	W
		K			New Threading Method Improves F.-F. SEAMS	100		S	
Y	W	K	F	E	NONWOVEN FABRICS Made by Continuous Process	102	C	S	W
Y					Georgia TOE Surveys SPINNING Subjects	104	C	S	
		K			Remedies for Streaky TRICOT Fabric	108		S	
		K	F		Make COLORS Washable for Woolens	110		S	W
				E	How Mills Are Using GLASS INSULATION	112	C	S	W
Y					Sycamore Spinning Plant Reduces WASTE	114	C	S	W
	W				SLASHER Equipment Shows Improvements	116	C	S	W
		K			Q. and A. on Device for Reducing SHRINKAGE	118	C	S	W
Y	W	K	F	E	Ideas From the MATERIALS-HANDLING Show	119	C	S	W
	W				Standardize Your SHUTTLE SIZE	127	C	S	W
Y					How To Run NYLON, ORLON, and DACRON	128		S	
Y	W	K	F	E	Interpreting MACHINE VARIATIONS	130	C	S	W
Y					Cut Loss of Spinnable COTTON	133	C	S	
Y	W	K			Keep End Use in Mind in Winding NYLON	135		S	
			F		How To Choose Textile FUNGICIDES	137	C	S	W
					Textile Equipment News				
		K			TRICOT Machine Knits Faster, Weighs Less	143	C	S	
Y					Paper-Bobbin SPINDLE	143	C	S	W
	W		F		Fabric Yarn-Shift TESTER	144	C	S	W
			F		Improved SANFORIZED Machine	144	C	S	
		K			TUBE Prevents Carrier and Sinker Damage	146		S	
				E	Junior Adjustable-Speed DRIVE	146	C	S	W
Y		K			New THREAD GUIDES Last for Years	148	C	S	W
				E	METAL-FINISHING Process	150	C	S	W
			F		Pressurized FABRIC-DYEING Machine	152		S	
			F		Dyeing of COTTON CARPETING Is Continuous	152	C		
Y	W	K	F		Free-Running CASTER Has No Sharp Edges	152	C	S	W
	W				SPRAY Eases Weave-Room Smash Repairs	154	C	S	W
		K	F		LUBRICATING Device	154	C	S	
			F	E	Process-Heat CONTROLLER	154	C	S	W
Y					Bronze-Insert TWISTER RING	154	C	S	W
				E	TOTE BOX Has Open End For Easy Access	156	C	S	W
Y	W	K	F	E	Gasoline TRUCK Has Electric Transmission	218	C	S	W
Y	W	K	F	E	Solenoid-Operated LUBRICATOR	218	C	S	W
					Kinks and Short-Cuts				
	W				Change FEELER TIPS To Stop Cut Filament	162		S	
	W				Double WRENCH Sets Box Cam on S-Looms	162		S	
	W				Strip of Felt Pads SHUTTLE FUR	162	C	S	W
	W				Hook Threads Hand-Change SHUTTLES	163	C	S	W
	W				We Use a DOLLY To Doff Cloth	164	C	S	W
			F		Identify LOOM-FINISHED Acetate Fabrics	164		S	
Y					Special CAKE HOLDERS Help Rayon Winding	168		S	
			F		How We Keep Our DYEING MACHINERY Clean	168	C	S	W
Y	W	K	F	E	MAGNETIZED STRIP Holds Wire out of Way	168	C	S	W
Y	W	K	F	E	Fixers Wear GLOVES To Reduce Seconds	170	C	S	W
Y					Back-Guide WIPER Keeps Gouts Out of Yarn	170	C	S	W
Y	W	K			Trim Gear Housing To Get at LOCKING NUT	170	C	S	W
Y					Prevent Jams on BOBBIN STRIPPER	172	C	S	W
Y	W	K	F	E	THUMB NUTS Don't Get Lost Any More	172	C	S	W

THE Long-Range VIEW

It's Time To Go To Work

Oddly enough, in less than six months after the Republicans took over the National government last January we began to hear businessmen repeat Franklin D. Roosevelt's famous quotation: "The only thing we have to fear is fear itself." We've heard it from responsible mill men individually and from speakers appearing on programs of important textile organizations.

The very fact that business leaders feel called upon to reassure each other gives that quotation a hollow ring. It does not have the vitality and does not instill the confidence it did when Roosevelt used it. Under present circumstances it sounds like whistling in the dark and seems to indicate, if not fear, at least uncertainty.

One of the most significant things Eisenhower and his Administration have done in these first six months is to give up inflation as the national economic policy. For any mill man under the age of forty or forty-five, this is a completely new and strange thing. And for men older than that, the memory of business under noninflationary policies is dim; twenty years of government spending has made their hands rusty.

One of the favorite pastimes of the "older" generation is to lament the irresponsibility of young men leaving school and going to work. These young men, we older boys like to say, have never had it tough, never had to work, always had too much money, found jobs too easy to get, etc. Actually, the same criticism is appropriate for many of the mill men now in responsible positions. They've never done business except with the government priming the pump. Inflationary economic policies have had more influence on their production, sales, and profits than they've had themselves.

And now that this leg is being removed from the stool, the old and familiar sense of balance is beginning to totter. It is this tottering, this not-yet-fully-realized change in the approach to business, this withdrawal of government from the responsibility for keeping business zooming that is causing the whistling in the dark. It is, to use Adlai Stevenson's phrase, "the stark reality of responsibility" for continued good business being given back to business itself.

And businessmen, mill men, if not afraid of it, are uncertain of it. Just as the young men, in spite of their great bravado, are full of fear and trembling when they have to give up the familiar, protected classroom and try to make a place for themselves in business and industry, so mill men are full of worry and uncertainty in the face of dwindling inflation that made business, in effect, protected.

Admittedly, it is a time for readjustment. Business asked for less government interference, lower taxes, less government spending. Now it is beginning to look as though some of these things are coming. And where do we go from here?

The first readjustment obviously is to recognize that the whole thing called the business climate has changed. We're on our own. Success and profits are harder to come by, and the chances for failure are multiplied. Like the young men out of school, we've got to go to work. The time and energy we used to fritter away shouting at government interference while we basked in a protected-business atmosphere will now have to be applied to constructive thought and action.

Mill costs will have to be reduced to eke out some sort of spread between costs and lowering selling prices. Waste of manpower and materials will have to be cut out. Operating efficiency will have to be increased.

These measures are, of course, an old story. They are the way to successful operation in any period. But as the cushion of inflation grows thinner, these measures become more vital.

It is all very well for mill men to assure each other that the only thing to fear is fear. But it is more to the point to assess the situation for what it is worth: The easy days are about over; business is getting tougher; and rewards in the future will be earned, not stumbled upon because the government kept the business pot boiling.

This represents a healthy situation, if we really want what we've been talking about for so many years: an unfettered free-enterprise system without government interference. If that is what we want, let's discard the comforting talk, roll up our sleeves, and go to work.

A. M. Thomas

Let's talk OPERATIONS

. . . hosiery preboarding and finish boarding, that is. Check your present equipment — are you cutting your profits with one-operation machines? A Turbo AD-48 will do both — without a single mechanical change. And — you'll have from 120 to 130 dozen pairs of stockings every eight hours, with only one operator.

In preboarding, automatic steam pressure controls and accurate timing assure quality production. In finish boarding, fan circulated hot air is directed on the stocking with greater air flow to the welt and toe for thorough, even drying. Steady, automatic temperatures give you static-free stockings.

Operation is smooth, quiet and precise — there is no banging or jolting. A Turbo AD-48 is gentle as a lamb with your finest stockings.

Send today for complete information about the advantages of using the Turbo AD-48 — enjoy the benefits of more "firsts", better profits. Inquire too about the rest of the Turbo machines for quality hosiery finishing, you'll get a prompt reply.

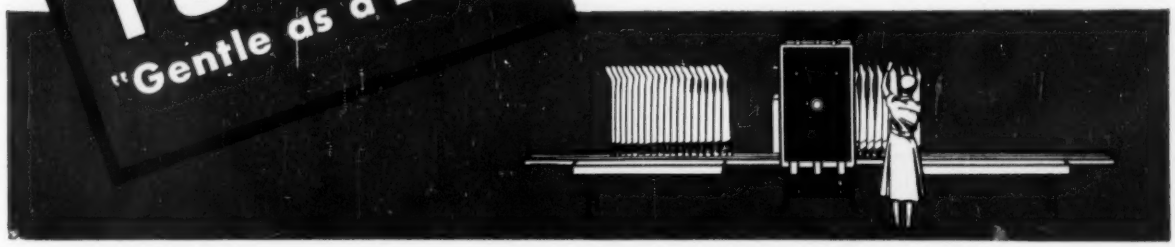
TURBO MACHINE COMPANY

Lansdale, Pennsylvania, U.S.A.

Southern Rep.: F. W. Warrington Co., Charlotte, N. C.

TURBO

"Gentle as a Lamb"



This SACO-LOWELL COMBER

will pay for itself in approximately

3 YEARS

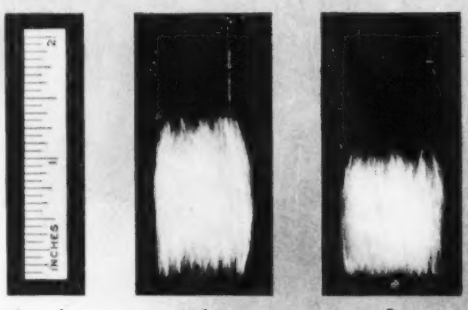
BASED ON THE CURRENT PRICE OF COTTON, THE RECOVERY, EXCLUSIVE WITH NEW SACO-LOWELL COMBERS, OF AN ADDED 13% OF LONG STAPLE FROM THE NOIL, CREATES A SAVING WHICH WILL ANNUALLY RETURN 33⅓ % OF THE INVESTMENT MADE FOR NEW SACO-LOWELL COMBERS.

More than 90 mills have installed Saco-Lowell Combers — you cannot afford to operate old, obsolete combing processes when new equipment will pay for itself in 3 years. Join the ranks of the "90" — switch now to modern Saco-Lowell Combing Equipment.

2 REVEALING FIBER SORTINGS

A Saco-Lowell Comber and Comber "C" were being tested simultaneously in a mill using 1⅜" American cotton. The combers were adjusted to take out 17% waste. Sample No. 1, from Comber "C", contains 23.8% fiber over 1" long, as compared with 10.7% in Sample No. 2, from the Saco-Lowell Comber.

Regardless of the cost of cotton, the recovery of an additional 13.1% spinnable fiber has a definite effect on the cost of the yarn. It is a saving which no mill operating combers can afford to overlook.



Our engineers are available for consultation without obligation, in addition, complete catalog information is available for the asking.

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENVILLE • ATLANTA

For more information, write direct or use Reader Service post card.

LINK-BELT
Silent Chain Drives... proved better 3 ways

LOW initial cost

LOW operating costs

HIGHER motor speeds

WANT to transmit power at high speeds . . . *with better than 98% efficiency for the life of the drive?* With Link-Belt Silverstreak Silent Chain you get lower initial cost on many applications . . . lower operating costs in all cases. In addition, ability to operate at higher speeds means less investment in motors and controls. Efficient operation on extremely short centers saves space, too. Remember, you can get positive, no-slip Link-Belt Silent Chain Drives from fractional to thousands of hp, with drives from ½ to 50 hp available from stock. Ratios range from 1:1 to 7:1. Contact your nearby Link-Belt office or distributor today.

LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVES

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities. 13.241

For more information, write direct or use Reader Service post card.

automatically self-cleaning Amco atomizer, No. 6

Preferred for its improved micro-spray

AMCO Atomizers at Chicopee Manufacturing Company, Manchester, N.H.

AMCO NO. 6 ATOMIZER broadcasts a smoke-like micro-spray which is projected to a great distance, intimately mixing with room air. Engineered to operate *only* at its most efficient point, the No. 6 atomizer allows no compromise with the quality of the spray under any conditions.

AMCO NO. 6 ATOMIZERS are made to close tolerances; of metals with proved resistance to erosion, corrosion and mechanical wear. They are automatically self-cleaning with each cycle of operation . . . and are of such simple, well engineered design that servicing, if required, is easily performed.

AMCO NO. 6 ATOMIZER is actuated by a highly sensitive humidity control, a product of Amco's advanced engineering and 65 years of experience with humidification problems. This control reacts faster than anything previously obtainable. It means relative humidity held to the exact specified percentage hour after hour, day in and day out, under *every* condition.

AMCO NO. 6 ATOMIZER can be used as original equipment or for replacement on all types of systems. Further details on request.

AMCO

AIR CONDITIONING SYSTEMS since 1888

Humidification • Evaporative Cooling (Ductless or Central Station) • Refrigeration

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA • BOSTON • CAMDEN • CHARLOTTE • AFFILIATED WITH GRINNELL COMPANY, INC.

For more information, write direct or use Reader Service post card.

WITH HOSE, TOO

It pays to order from your Goodyear Distributor

STANDARD HOSE REPLACES SPECIAL CONSTRUCTION

This company had been using specially-built, heavy, plied-up type hose requiring special construction at a high price. The Goodyear Distributor called in the G.T.M.—Goodyear Technical Man—found standard ORTAC hose with oil-resistant cover could do the job at a fraction of the cost.

PREMATURE HOSE FAILURE ENDED

A sand and gravel company was troubled with premature failure of water and sand discharge hose, caused by slight suction set up when pumps were started. The Goodyear Distributor and the G.T.M. recommended DIVERSIPIPE—which has served over two years and is still going strong.

Here's why it pays to order from your local Goodyear industrial rubber products distributor.

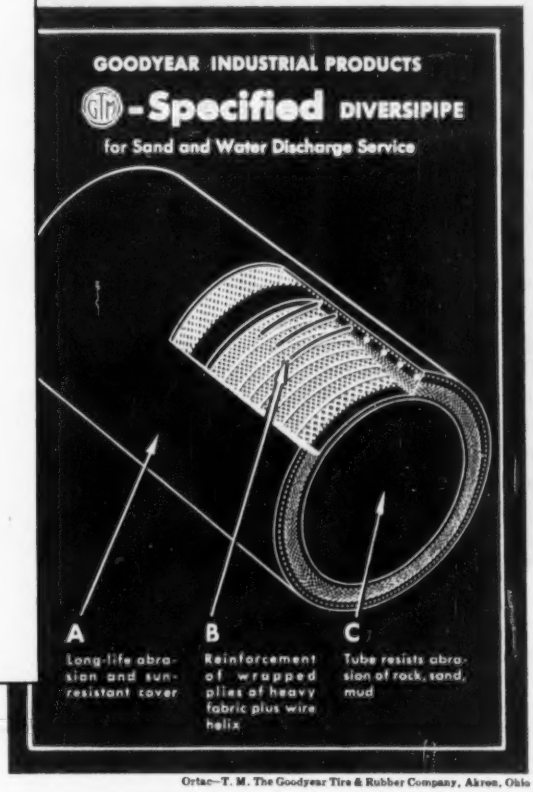
Replacement orders filled when you need them from convenient, local stocks.

One order, *one* bill, *one* central responsibility for all your Industrial Products requirements.

You save on valuable stockroom space, because your local distributor maintains a full stock of the items he knows you need.

Double assurance of satisfaction because the distributor and Goodyear stand behind the products he sells you.

Goodyear, Industrial Products Div.,
Akron 16, Ohio


GOODYEAR INDUSTRIAL PRODUCTS
GT-Specified DIVERSIPIPE
for Sand and Water Discharge Service
A
Long-life abrasion and sun-resistant cover
B
Reinforcement of wrapped plies of heavy fabric plus wire helix
C
Tube resists abrasion of rock, sand, mud

We think you'll like
THE GOODYEAR TELEVISION PLAYHOUSE
every other Sunday—NBC TV Network

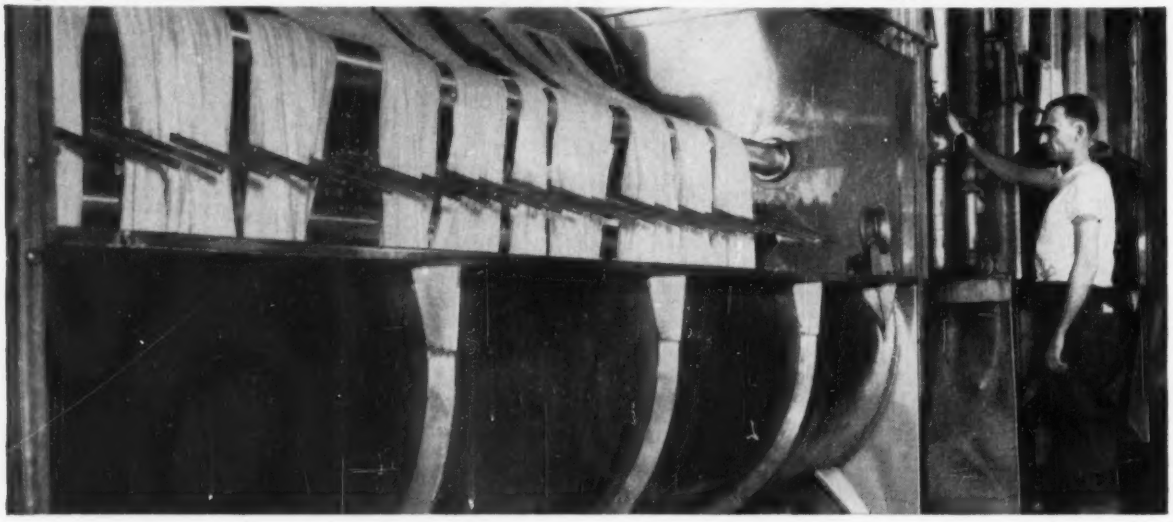
Ortac—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

GOODYEAR

THE GREATEST NAME IN RUBBER

 For more information, write direct or use Reader Service post card.

USED HERE as a dye beck, this Rodney Hunt Trushade unit is made entirely of Stainless Steel. These units also are used for bleaching, soaping and washing, and the ease with which Stainless can be hosed down makes it possible to change from one type of operation to another in just a few minutes.



From "gray cloth" to finished goods Stainless Steel protects the fabric best

PROCESSING approximately 2,500,000 yards of cotton and synthetic fabrics per week, North Carolina Finishing Company at Yadkin, N. C., relies heavily on Stainless Steel equipment to keep the product safe from rust contamination.

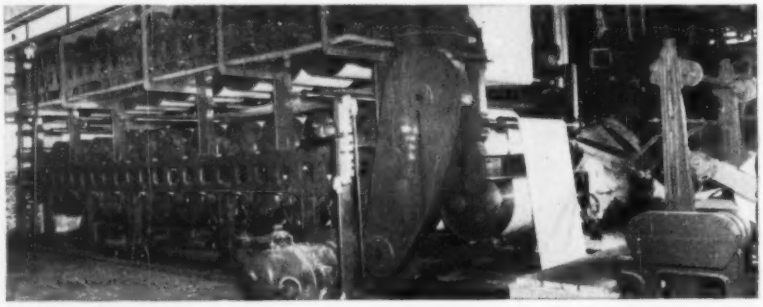
Cotton fabric first meets Stainless Steel in the bleaching operation. In just about all of the many succeeding operations the cloth comes in contact with Stainless Steel.

Washing after mercerizing takes place in wash boxes equipped with Stainless Steel boxes and rolls, and subsequent drying takes place on Stainless cans.

In dyeing, where continuous and pad jig methods and dye becks are used, the boxes, rolls, pipes and fittings are Stainless Steel. Stainless is ideal here because it can be cleaned quickly and easily and doesn't deteriorate, causing frequent and costly shutdowns.

These are only a few of the uses of Stainless Steel in this big finishing plant, but they are graphic examples of how Stainless Steel, with its smooth surface and corrosion resistance, not only protects the fabric best, but also far outlasts other materials. The result is less maintenance, fewer replacements and over-all lower operating costs.

You'll find Stainless Steel equipment can do the same for you. For finest performance, be sure your equipment fabricator uses perfected, service-tested U·S·S Stainless Steel.



THIS 50-CAN BUTTERWORTH DRYER, used for drying the cloth after the washing that follows the mercerizing stage, is equipped with cans of Stainless Steel.

UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

3-1452

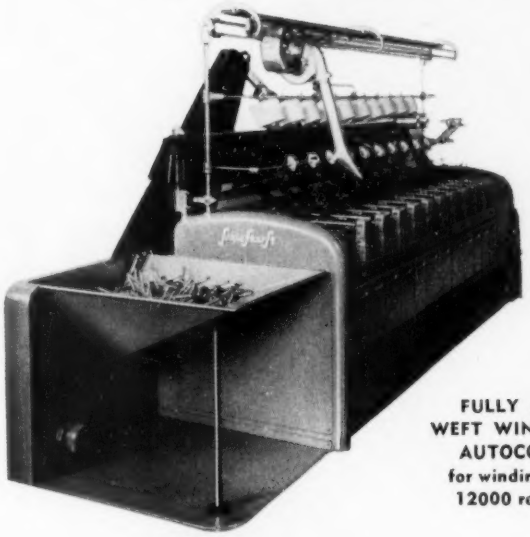
UNITED STATES STEEL

For more information, write direct or use Reader Service post card.

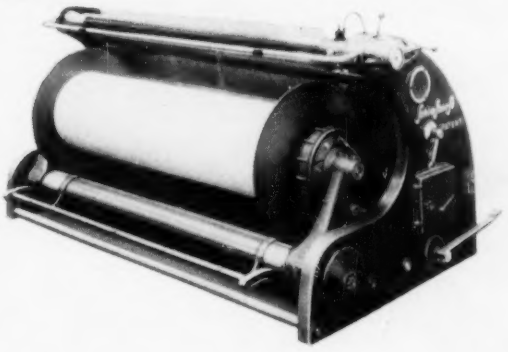
MODERN MACHINERY FOR WINDING AND WARPING

....Schlafhorst....

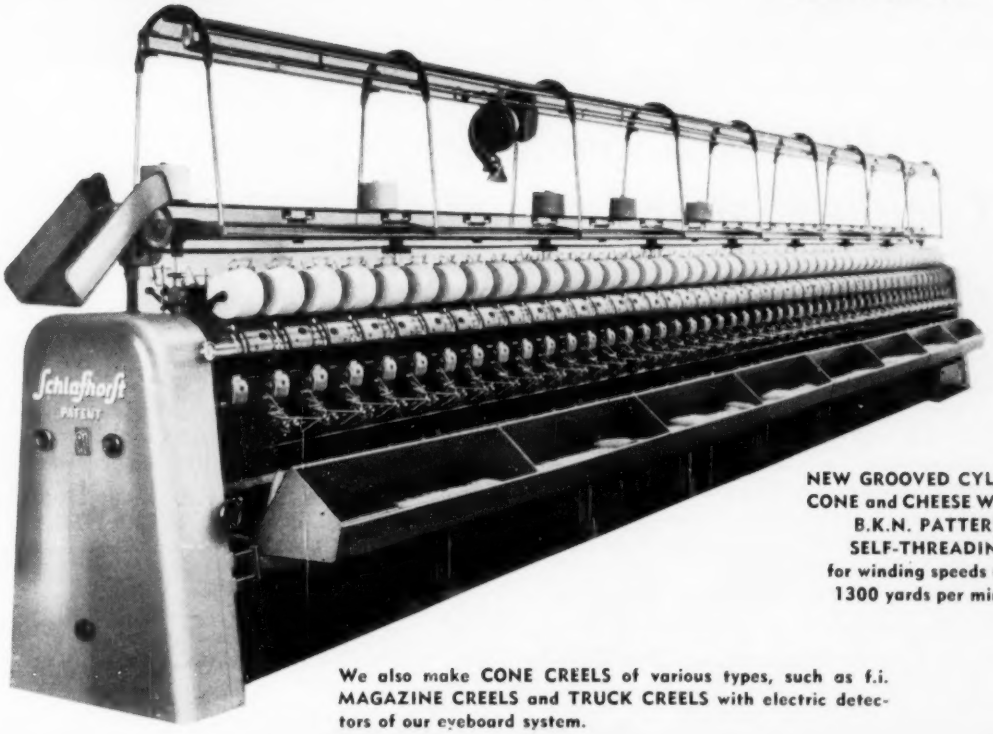
UNIONMATEX



FULLY AUTOMATIC
WEFT WINDER (QUILLER)
AUTOCOPSER A.S.E.
for winding speeds up to
12000 revs per minute



New C. Z. U. pattern
HIGH SPEED WARPER
Extraordinary production
Greatest simplicity

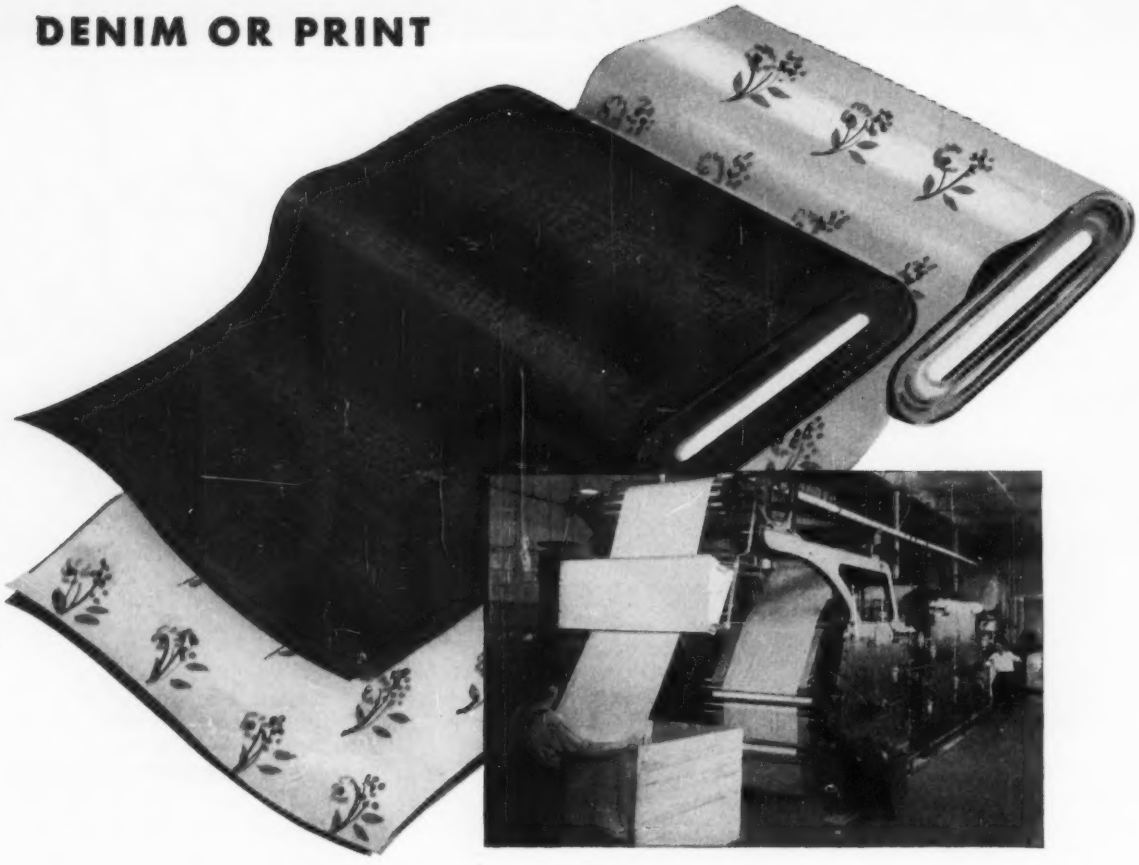


NEW GROOVED CYLINDER
CONE and CHEESE WINDER
B.K.N. PATTERN
SELF-THREADING
for winding speeds up to
1300 yards per minute

We also make CONE CREELS of various types, such as f.i. MAGAZINE CREELS and TRUCK CREELS with electric detectors of our eyeboard system.

W. SCHLAFHORST & CO · M.GLADBACH · GERMANY

DENIM OR PRINT



NOPCO'S *New* finishes provide *Complete* control of widely varying hand in *Sanforized** cottons

No *single* finish can cover the full range of textures from the soft silkiness of fine percales to the stiff, leathery hand of denim. *NOW* Nopco *does* offer a complete line of synthetic finishes that include all the basic characteristics a practical finisher needs.

By careful selection of one or more of these compounds, you can get more exact control of desired hand, and at the same time allow for maximum variation in the Sanforized* fabrics.

This is the first full line of chemically synthesized finishes ever offered which can be selected and combined like building blocks to "construct" the most suitable finish.

These synthetic finishes also prevent sticking at the boot, and eliminate yellowing during processing and the development of unpleasant odors in storage.

FUNDAMENTAL CHARACTERISTICS OF NOPCO* FINISHES FOR CONTROLLING HAND OF STABILIZED FABRICS

	Nopcowet* 86-A	Nopco 2272-R	Nopco 1271-M	Nopco 1935-S	Nopco 1935-M	Nopcowet* 68-S
Wetting	X	X		X	X	X
Lubrication		X		X	X	
Softness			X	X	X	

*NOPCO—Reg. U.S. Pat. Off. *NOPCOWET—Trade Mark of Nopco Chemical Company *SANFORIZED—Registered Trade Mark of Cluett, Peabody & Co.

NOPCO

Chemical Company, Harrison, N. J.

NOPCO — EVOLVED THRU RESEARCH

Branches: Boston • Chicago • Cedartown, Ga. • Richmond, Calif.

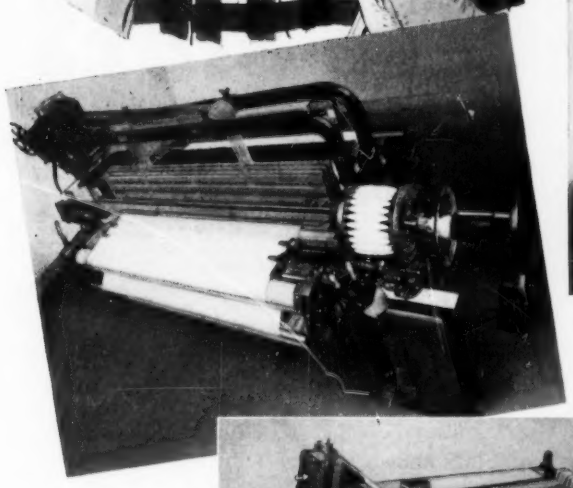
For more information, write direct or use Reader Service post card.

Are You "ON THE HOOK"?

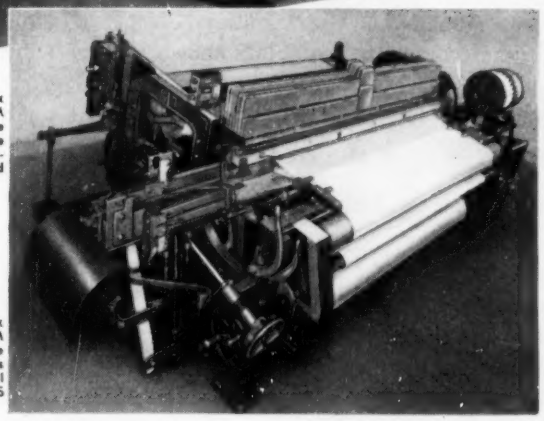
Fishing for a new merchandising sensation in one of the natural fibres . . . or one of the new synthetics . . . or a blend?

Then it will pay you to take counsel with C & K. For C & K's unmatched knowledge of box-loom weaving of *all types of fibres* . . . plus the world's longest line of looms, single or multi-color filling mixing . . . can quickly take you off the hook of indecision, and start you on your way to new profits.

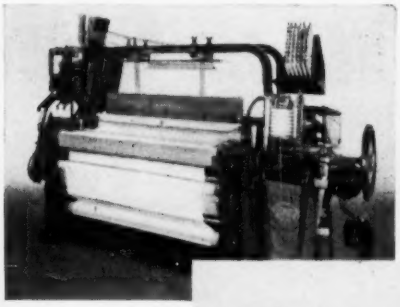
Yes, C & K's complete line can give you *exactly* the loom-construction you need to do the finest job of producing the fabric-construction you have in mind. What's more, these looms are ready for delivery *now*, so there need be no delay. *See C & K today.*



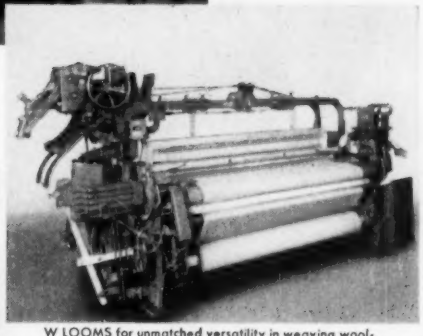
NEW SINGLE-PURPOSE C&K 2 x 1 BOX FILLING MIXING LOOM equipped with Rotary Magazine and *Head Motion* . . . one of the newest additions to C&K's *complete line* of performance-proved FM Looms.



NEW SINGLE-PURPOSE C&K 2 x 1 BOX FILLING MIXING LOOM equipped with Rotary Magazine and *End Cam*. C&K also builds multi-purpose FM Looms with Call Box Feature (see W, C and S Looms below).



S LOOMS are the most modern machines for weaving nylons, rayons, acetates, combinations and pure silks. Built in all widths . . . call box . . . *filling mixing* . . . bobbin-changing . . . shuttle changing . . . many shuttle sizes . . . pick and pick . . . Jacquard . . . and what other features do you want?



W LOOMS for unmatched versatility in weaving woolens, worsteds, upholstery and blended fabrics. Made in all widths . . . bobbin-changing . . . *filling mixing* . . . tri-color . . . convertible . . . pick and pick . . . and many other features.

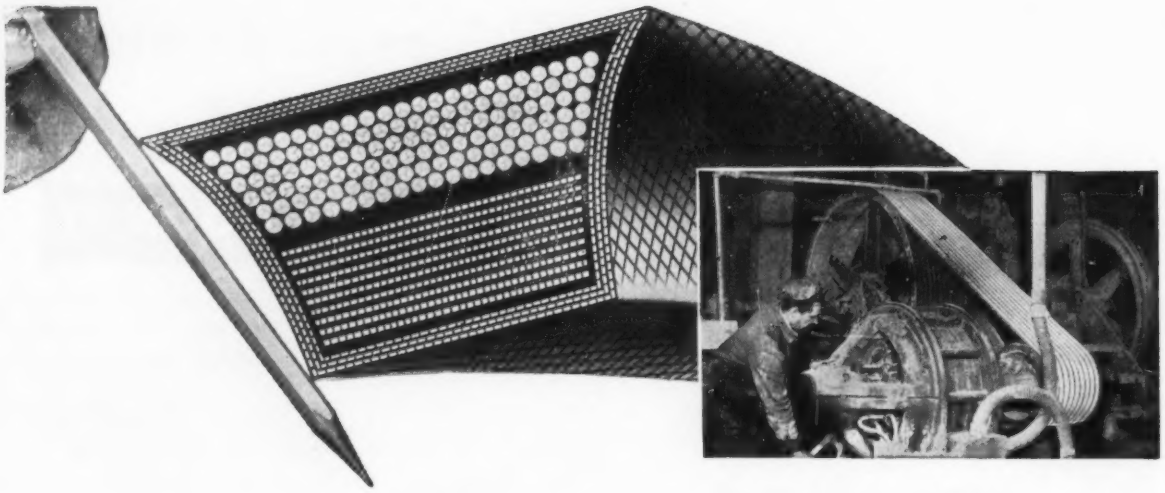
C LOOMS for widest flexibility in weaving cottons, spun rayons and blends for towels, blankets, decorative fabrics, bedspreads, handkerchiefs, shirtings, suitings, dress goods. Built in all widths . . . bobbin-changing . . . shuttle changing . . . convertible . . . tri-color . . . pick and pick . . . leno motions . . . all-purpose take-up . . . 30" beams . . . and many more C&K-engineered advantages.

Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa.
Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.



Gates V-Belts are built with CONCAVE SIDES

(U.S. PATENT NO. 1813698)

...that's why they last longer!

If you want lower V-Belt costs, just make this simple test...pick up *any* V-Belt and bend it as if it were going around a pulley.

As the belt bends, grip its sides between your fingers and thumb.

If the belt has *straight sides* you feel the sides bulge out. This forces the sides of the belt to press *unevenly* against the V-pulley . . . and you get concentrated wear at the points shown by the arrows.

Now, try this same test with the V-Belt that is built with CONCAVE SIDES **—the Gates Vulco Rope.**

As this belt bends, you can feel the CONCAVE SIDES *fill out* and become perfectly straight.

These sides press *evenly* against the V-pulley. All wear is distributed *uniformly* across the full width of the Gates Vulco Rope and the CONCAVE SIDES therefore mean longer belt life and lower V-Belt costs for you.

When you buy V-Belts, be sure to get the V-Belt with the CONCAVE SIDES—the Gates Vulco Rope!

Gates Engineering Offices and Jobber Stocks are located in all industrial centers of the United States and in 71 foreign countries.

CS-535

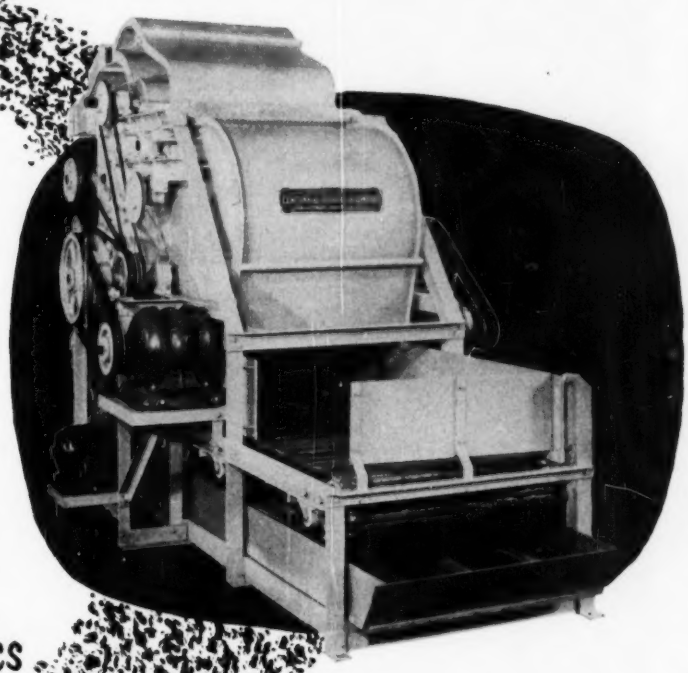
V-Belts — Hose
Molded Rubber Goods
for industry
World's Largest Maker
of V-Belts

Gates® VULCO ROPE DRIVES

THE GATES RUBBER COMPANY • DENVER, U.S.A.

THE CEN-TENNIAL OPENER

THE ULTIMATE IN FIBRE SEPARATION



OPENS } COTTON
CLEANS } WOOL
BLENDS } SYNTHETICS

The Cen-Tennial Opener is a product based on research by Southern Regional Research Laboratory and thoroughly proven by mill experience It reduces waste and neps, increases spinning efficiency and produces stronger and cleaner yarns. Dozens of installations attest to these results.

CEN-TENNIAL
COTTON GIN COMPANY

Columbus, Georgia

Stay Ahead with *Reiner*

Photos Courtesy: BANGOR MILLS, INC.

IN today's highly competitive tricot market, the question of what machine to use is of paramount importance. High speeds, consistent with top quality, rugged, trouble-free and dependable 'round the clock operation are the combination leading to improved sales and higher profits. Consider then these features:

Reiners and only Reiners are convertible from 2- to 3-bar. A mechanical beam feed to assure automatic and absolute quality control—a direct take-up device, driven from the cam shaft through a chain drive, for precise quality settings—Pattern wheel or chain link drive for unlimited versatility in fabric pattern—Fully automatic lubrication for trouble-free operation—Instantaneous acceleration and deceleration for the elimination of stop marks—Available in all gauges.

Last but not least, the Reiner know-how based on delivery of almost 1,500 tricot machines since 1945—every one of which is still producing Tricot at its Best!

Reiner—and only Reiner—offers a full line of warpers and creels—in short, warp-knit equipment from cone to knitted fabric.

YOU DO WELL TO STAY AHEAD WITH REINER

1903 50th Anniversary 1953

ROBERT REINER INCORPORATED

10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903

550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY

FOR PAD JIG AND MACHINE DYEING...

A NEW NATIONAL VAT

Carbanthrene Red G2B

DOUBLE PASTE

Having high tinctorial power this new National anthraquinone vat dye yields pleasing, well-covered bluish-red tones on many types of dress materials, thread and embroidery yarns. It possesses very good fastness to light, washing, perspiration, fulling, peroxide bleaching, chlorine, stoving, alkali and hot pressing.

Samples and Application Data promptly available by writing or phoning our nearest office.

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N.Y.

Boston Providence Philadelphia Chicago San Francisco Portland, Ore. Greensboro Charlotte Richmond Atlanta Columbus, Ga. New Orleans Chattanooga Toronto

L. F. Dommerich & Co., Inc.

Executive and General Offices

271 MADISON AVENUE

NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

FACTORS

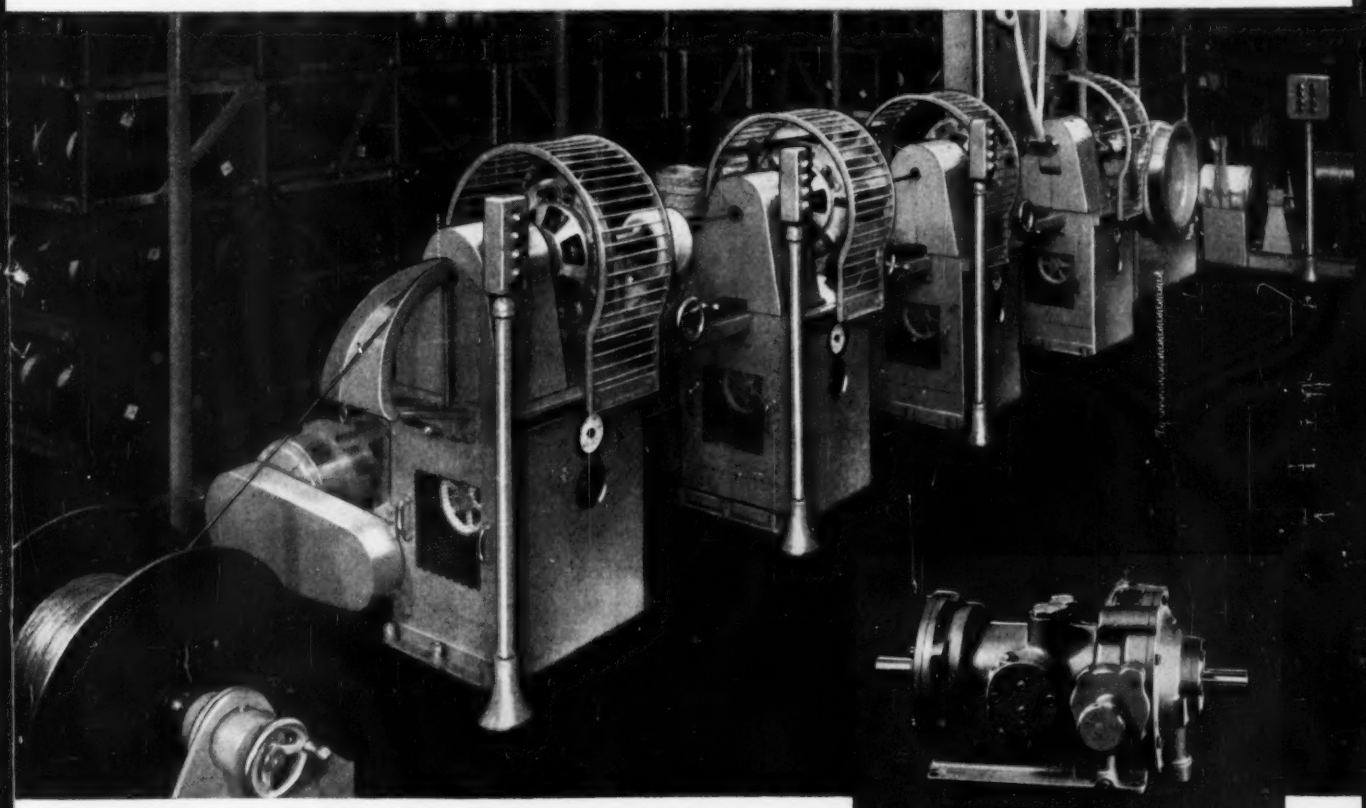
For Manufacturers and Merchants

Inquiries as to our services solicited

●

BUSINESS ESTABLISHED 1840

MACHINE DESIGN AT WESTERN ELECTRIC



Its use of Oilgear Fluid Power

Western Electric Company, manufacturing unit of the Bell Telephone System, originates, designs and builds many of the special machines it uses in its own manufacturing processes. It also maintains unceasing pressure to improve upon machines already in operation, for optimum performance, for better product, for lower costs, for freedom from trouble.

Its use of Oilgear Fluid Power Drives and Transmissions has been increasing because, in the words of their engineers, Oilgear enables them among other things to synchronize many machine components easily and economically. A good example of all these points is the "short haul" video cable wrapping machine pictured above.

This machine was designed and built by the company's own men some years ago. For optimum performance, the speed of the heads should be easily and independently variable and the direction of rotation instantly changeable because the lay and pitch of the wrappings must be varied according to the requirements of the run. Moreover, the inside contour of the tube formed by the wrapping should be smooth and uniform so as to avoid setting up echo waves that interfere with transmission and vitiate signal strength.

Because of these requirements, a new drive was installed something over 4 years ago. A line shaft drives five Oilgear Fluid Power Transmissions, one at each machine head and the capstan.

The results were these: uniformity and control of tension are so good, the machine runs at 4 times its former machine speed; it is easy to vary speed and direction of rotation of each individual head; eccentric heads gave way to concentric heads, and supply spools are now loaded to full capacity instead of ¼th to ⅛th as before; the machine is stopped less frequently for loading. Maintenance on the former drive was involved and frequent—on the Oilgear equipment it has been simple and negligible.

There is some reason to suspect that Oilgear Fluid Power with its wide range of advantages may solve some of *your* machine design problems and make the results very pleasing and profitable. Why don't you really find out? THE OILGEAR COMPANY, 1577 West Pierce Street, Milwaukee 4, Wisconsin.

OILGEAR

OILGEAR

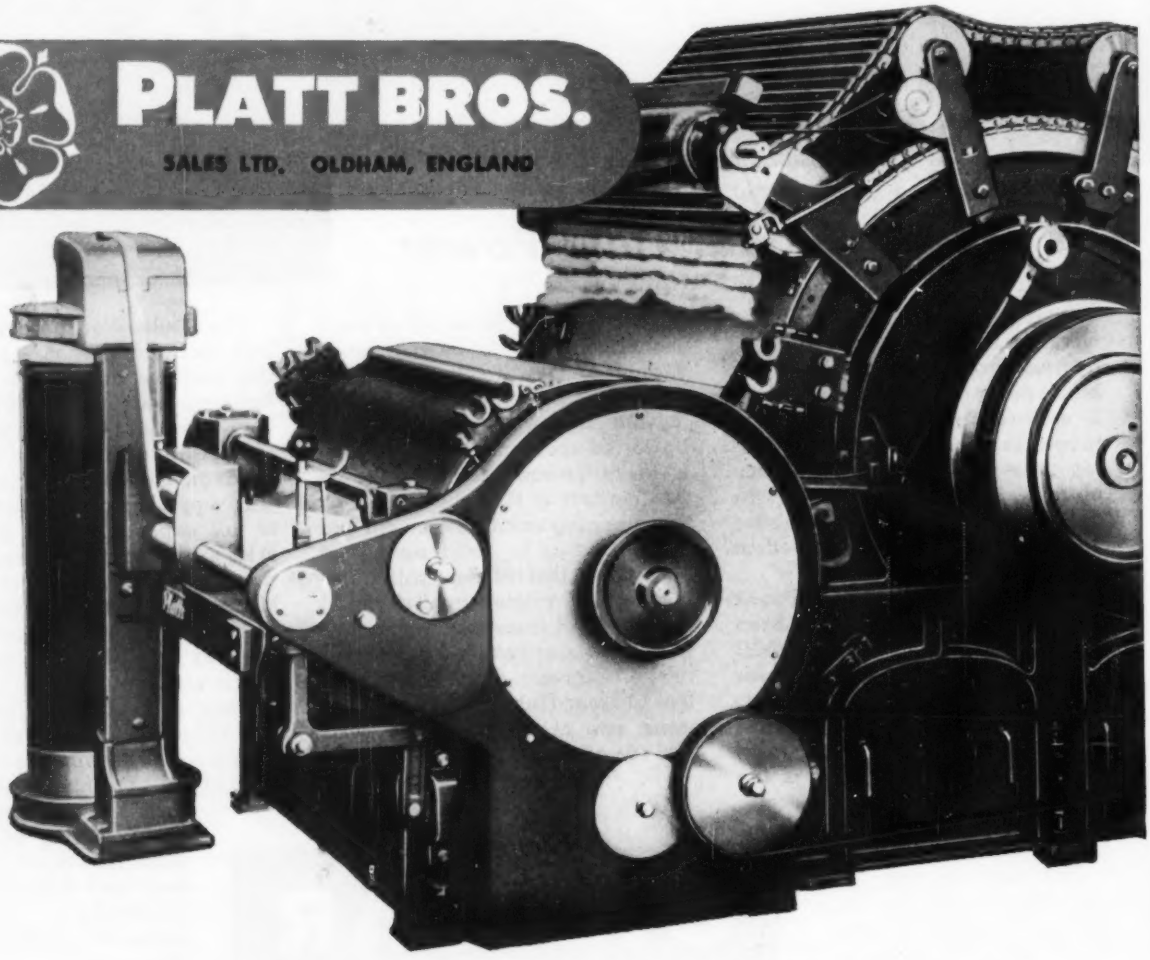
Hundreds of Platt

are already improving production in American cotton mills

There are a lot of mills rediscovering the perfection of Platt machinery. This cotton card is solidly built to close tolerances. One outstanding result is the way it takes *and holds* an accurate setting; vibration is eliminated at all working speeds; undesirable air currents are eliminated. Notice the streamlined design and guarding to keep fly *outside* where it can be easily wiped off. It will pay you in immediate cash savings and future improved production to see this card in action. Could you visit our Charlotte machinery center, or perhaps we could arrange a trip to a nearby installation? You'll hear a lot about even, nepless webs!!

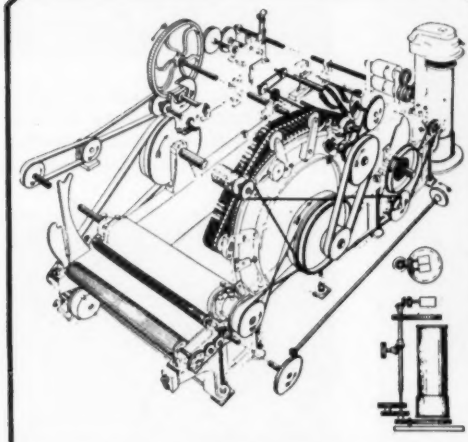
PLATT BROS.

SALES LTD. OLDHAM, ENGLAND

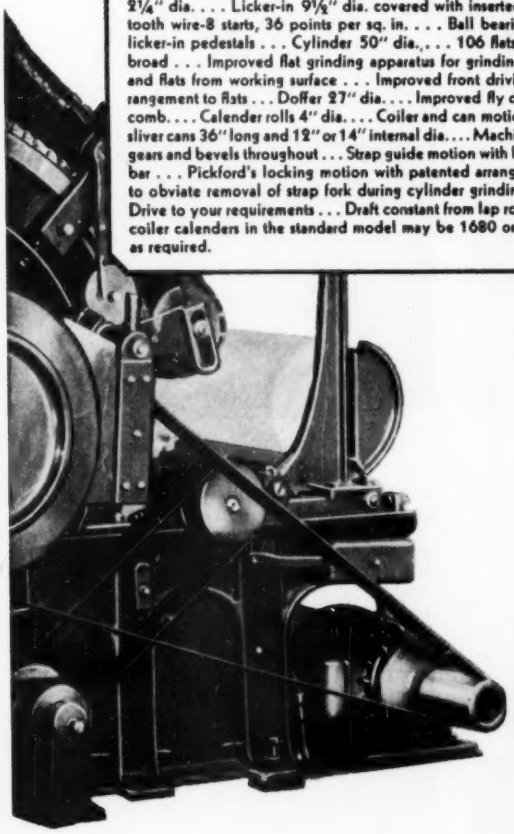


For more information, write direct or use Reader Service post card.

Cards



STANDARD SPECIFICATIONS: 40" wide . . . Clothing for your requirements . . . Dish feed plate with fluted steel roller 2¼" dia. . . . Licker-in 9½" dia. covered with inserted saw-tooth wire-8 starts, 36 points per sq. in. . . . Ball bearings to licker-in pedestals . . . Cylinder 50" dia.,. . . 106 flats 1⅜" broad . . . Improved flat grinding apparatus for grinding wire and flats from working surface . . . Improved front driving arrangement to flats . . . Doffer 27" dia. . . . Improved fly doffing comb. . . . Calender rolls 4" dia. . . . Coiler and can motions for sliver cans 36" long and 12" or 14" internal dia. . . . Machine cut gears and bevels throughout . . . Strap guide motion with handle bar . . . Pickford's locking motion with patented arrangement to obviate removal of strap fork during cylinder grinding . . . Drive to your requirements . . . Draft constant from lap roller to coiler calenders in the standard model may be 1680 or 2240 as required.



a. h.

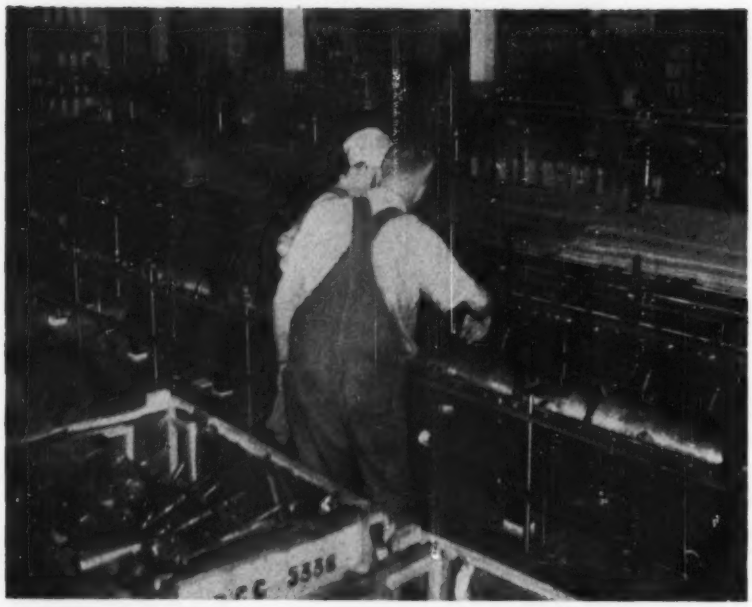
Seeing the machine and the process...

Being engineers and agents for every type of cotton preparatory machinery gives us a broad perspective; an understanding of the interdependence of machines; you might say the ability to see *the forest* and *the trees*. May we be of service to you in selecting a single machine or a complete mill?

Atkinson, Haserick & Co.

Textile Machinery Agents and Engineers Since 1823

211 CONGRESS STREET
BOSTON 6, MASS.
1639 W. MOREHEAD STREET
CHARLOTTE 2, N. C.



ERECTING NEW TYPE WOOLEN TWISTER

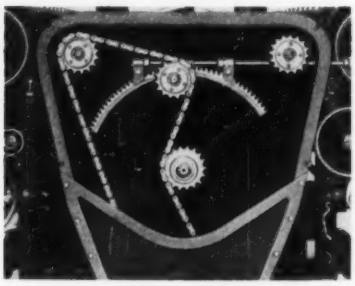
From packing cases to production... in nine days

This new Prince-Smith & Stells Axminster Woolen Twister was scheduled for erection by Atkinson, Haserick & Co. on February 9th. That was the day we started taking these photos.

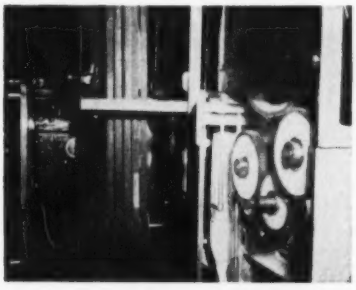
Everything was there; parts checked by the factory, motors from Schenectady, belts from Pittsburgh, bobbins from Burlington and the factory erector who worked on the job from 7 till 7. The frame was producing yarn on the ninth day, the sixth Prince-Smith & Stells machine in this mill.

In the U. S., Prince-Smith & Stells teams up with Atkinson, Haserick & Co. to give you excellent machinery and competent engineering service. Please call on us.

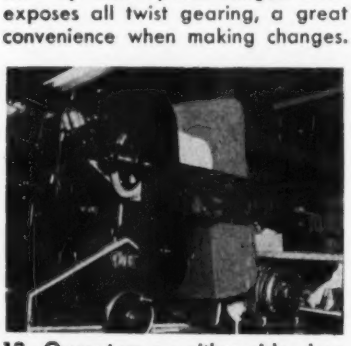
1. While the factory erector, Atkinson, Haserick engineers and mill crew were working, we took these photos of new features as they were being installed.



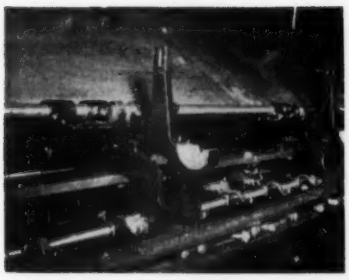
5. Reversing change speed device allows quick reversing of twist without changing tapes. Sprocket drive gives definite ratio which can be duplicated.



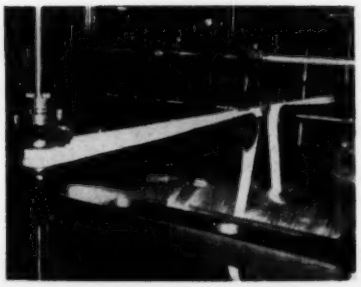
9. Long belts from overhead motor take up little space. Hinged door exposes all twist gearing, a great convenience when making changes.



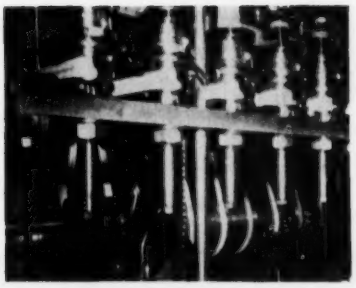
13. Operators on either side drop empty bobbins in the conveyor that runs the entire length of the frame. The bobbins are deposited in a truck at the motion end.



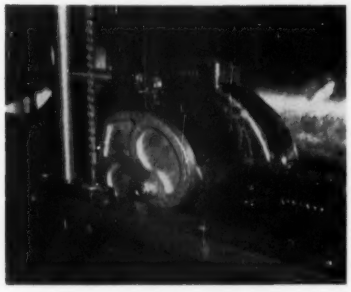
2. Simplified one-piece stand supports front roll, eccentric shaft and finger rod. The Oilite bushing now eliminates oiling in the yarn area.



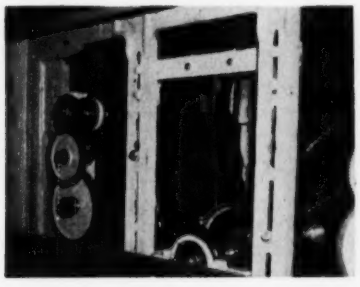
3. New double tension pulleys do away with angle settings. Tapes and pulleys are not touched when reversing twist. Pulleys run on Hoffman ball bearings.



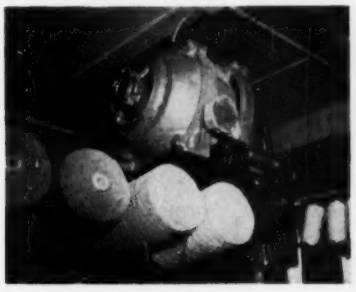
4. One tape drives two spindles with 180° contact on wharles assuring a more positive spindle speed. A noticeable reduction in power consumption is achieved.



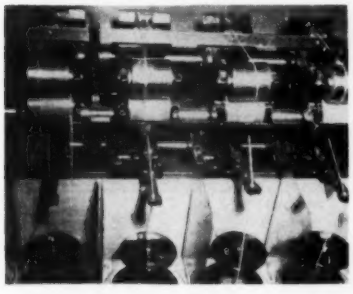
6. The lifter motion gearing is not altered when reversing twist. The new horizontal motion has Hoffman thrust bearings and is totally enclosed.



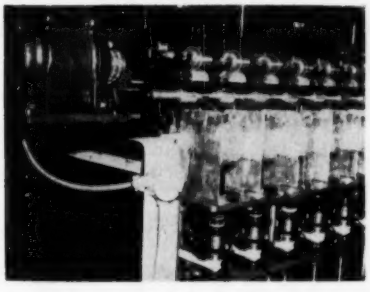
7. Each side has a separate lifter motion chain driven, fitted with shear pins. The clutch operated eccentric motion is also chain driven.



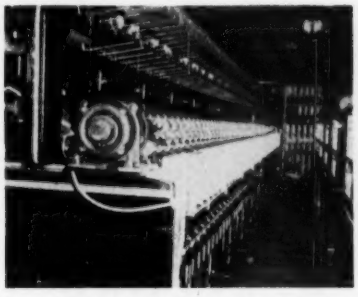
8. Motor is mounted on an overhead spring cradle to save floor space and allow a longer center drive for belts. Peg creel holds large diameter cheeses.



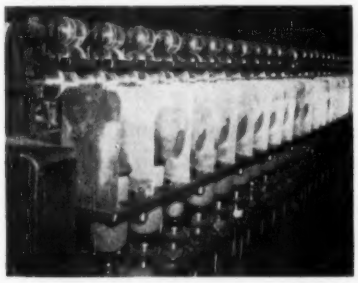
10. Trap motion instantly stops twin clutch spindle and top rollers when end breaks or runs out in creel, enabling single knots to be tied behind the rollers.



11. New type roller swingers are flame hardened at points of contact to resist wear. Middle rolls may be Accotex covered for a cushioned, more positive nip.



12. Here is the frame on the 9th day of erection. The operator liked its smooth operation and convenience. Maintenance men will not oil the spindles for 2,500 hours.



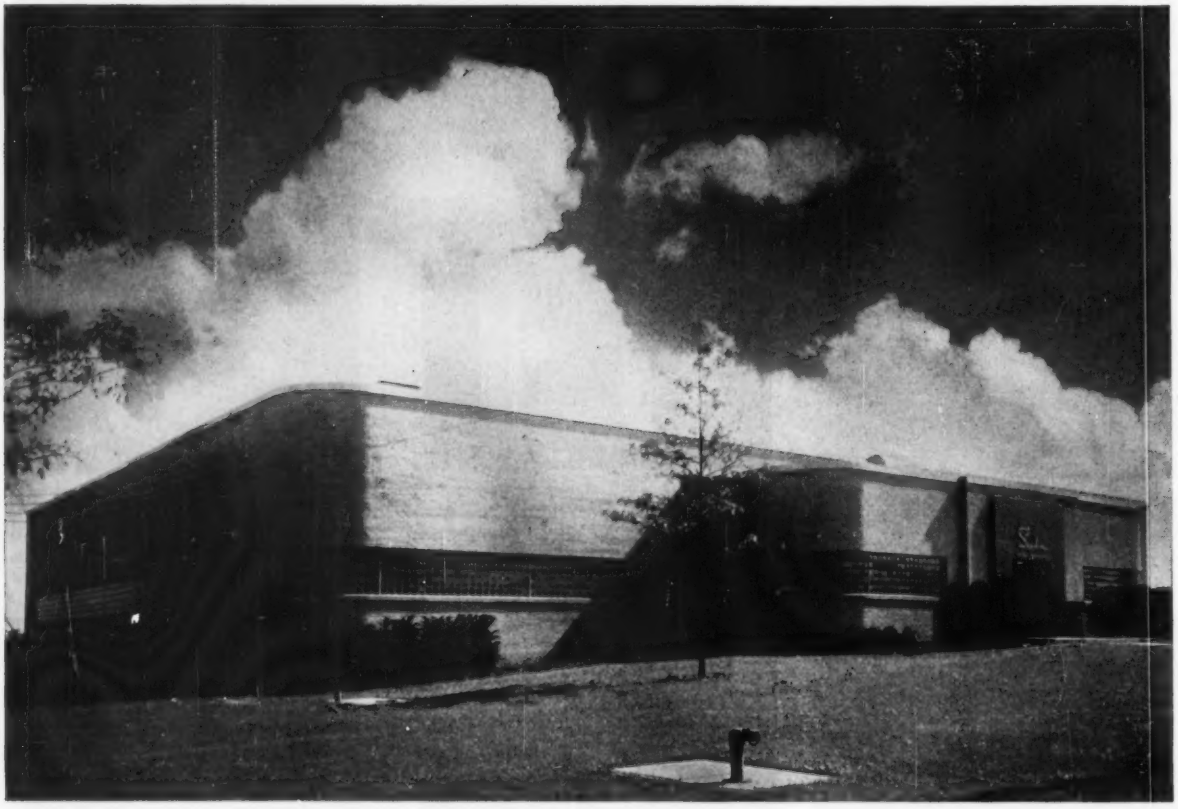
14. This is one of the many other Prince-Smith & Stells twisters running without mechanical interruption for years in this mill.

PRINCE-SMITH & STELLS
LIMITED
INCORPORATING TAYLOR WORDSWORTH & CO. LTD.
KEIGHLEY — ENGLAND

a. h.

Atkinson, Haserick & Co.
TEXTILE MACHINERY AGENTS & ENGINEERS SINCE 1823
211 CONGRESS ST., BOSTON 6, MASS.
1639 W. MOREHEAD ST., CHARLOTTE 2, N. C.
U. S. A. AGENTS FOR FRENCH SYSTEM MACHINERY: BLAKE ELECTRIC MFG. CO., 43 COMMERCIAL WHARF, BOSTON, 10

A Lockwood Greene Project



New mill for Sapphire Hosiery Corporation, Telford, Pa.

A RECORD OF SERVICE IN KNIT GOODS

as measured by:

Features of this full-fashioned hosiery mill, pictured above, include one story completely air conditioned, long span construction providing clear floor areas, rigid floor on ground and ready means for expansion.

New Plants	37
Major Additions	67
Minor Additions, Reports, Appraisals	197
Total Engagements	301
Cost of New Plants and Major Additions	$35,000,000

LOCKWOOD GREENE

ENGINEERS • ARCHITECTS

Boston 9, Mass. 40 Central Street

New York 20, N. Y. 10 Rockefeller Plaza

Spartanburg, S. C. Montgomery Bldg.

Only One Wool Oil Supplier Offers You All This!

1. SCIENTIFIC ANALYSIS...
A S/V engineer uses special instruments (like this moisture meter) to analyze mill operations.

2. ENGINEERING REPORT...
After analysis, S/V engineer prepares report, with recommendation of correct wool oil.

3. PROVED PRODUCTS...
Recommended from complete line, meeting all degrees of scourability and discoloration resistance.

4. LABORATORY SERVICE...
Technicians in S/V laboratories make tests of mill samples to control performance on the job.

5. PROGRESS REPORTS...
Show efficiency of fiber lubrication, make recommendations for still further improvement.

Why accept less for your mill?

There's no mystery about which wool oil is best for your operation when you call in Socony-Vacuum. Our fiber lubrication service and complete line of *S/V Woolrex Oils* assure your use of the right product—*on a price-performance basis!* Why not get all five benefits of this exclusive wool oil service?

SOCONY-VACUUM OIL COMPANY, INC.
Chemical Products Division, 26 Broadway, New York 4, N. Y.

Process Products
SOCONY-VACUUM

Socony-Vacuum Process Products

 For more information, write direct or use Reader Service post card.

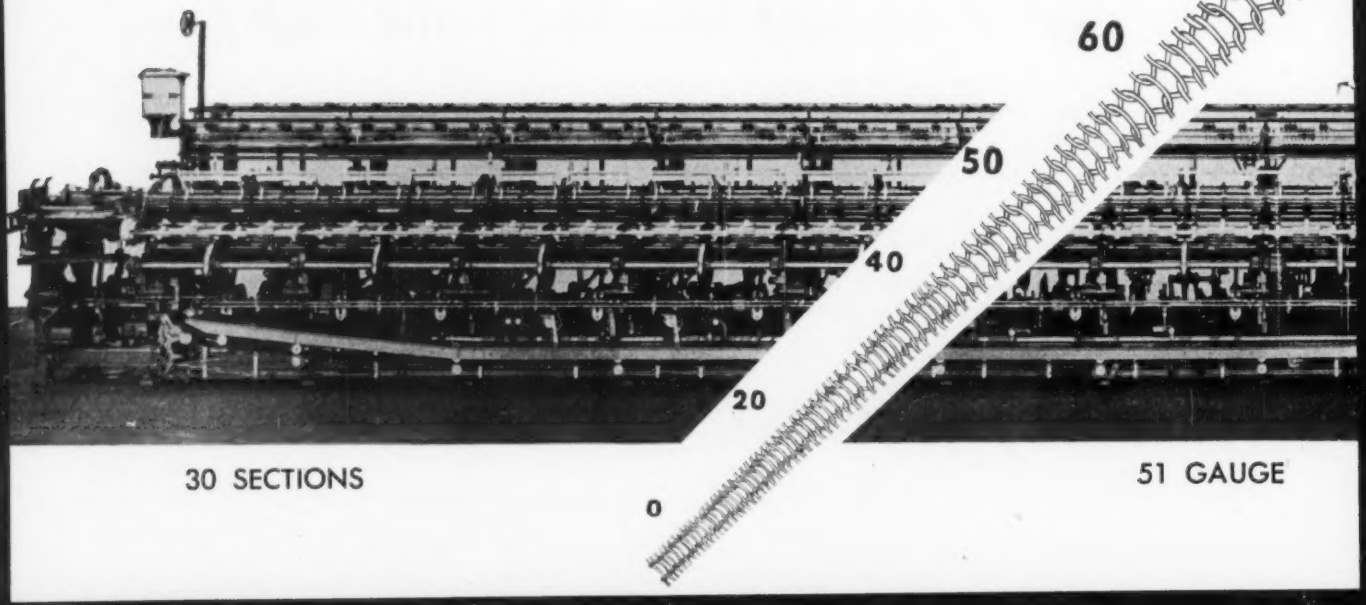
It knits 100 courses per minute

The "READING 100"
Full-Fashioned Knitting Machine

A NEW STANDARD IN PRODUCTION

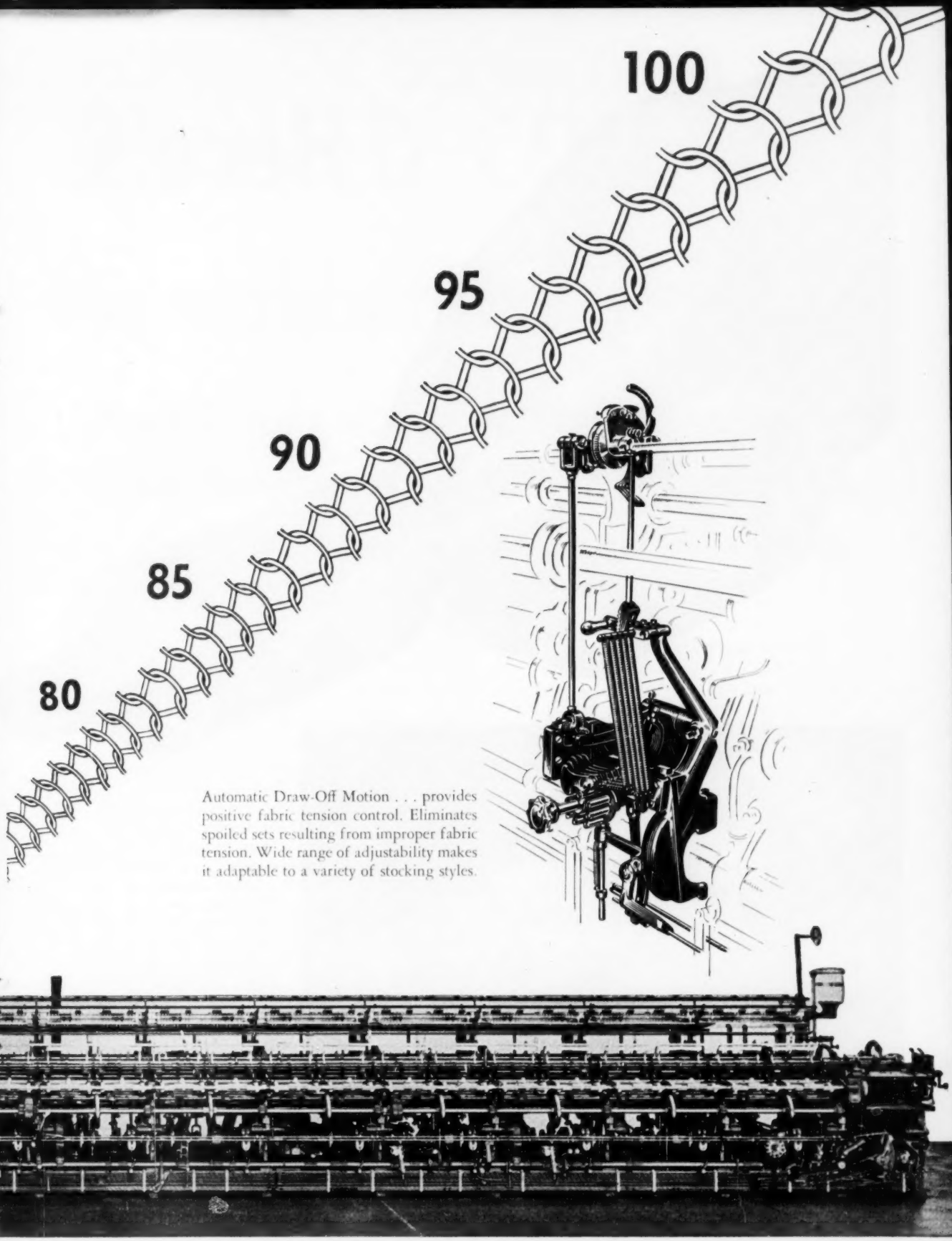
If average knitting speed (cpm) in your mill is	And average production (dozens) in an 8 hour shift is	Estimated production with the "READING 100" per 8 hour shift is	This reduces hours of knitter labor per dozen From	To
76	12	14.9	.66	.54
76	13	16.1	.62	.50
76	14	17.2	.57	.46
78	12	14.4	.66	.55
78	13	15.7	.62	.51
78	14	16.8	.57	.48
80	12	14.1	.66	.57
80	13	15.3	.62	.52
80	14	16.5	.57	.48
80	15	17.4	.53	.46
82	12	13.8	.66	.58
82	13	15.0	.62	.53
82	14	16.1	.57	.50
82	15	17.0	.53	.47

Above figures are based on average 60-Gauge constructions.



30 SECTIONS

51 GAUGE



Automatic Draw-Off Motion . . . provides positive fabric tension control. Eliminates spoiled sets resulting from improper fabric tension. Wide range of adjustability makes it adaptable to a variety of stocking styles.

60 GAUGE

TEXTILE MACHINE WORKS
READING, PENNA., U.S.A.

66 GAUGE

Here's

ONE LOOK at this clearer board tells you where Armstrong's newest cot, the NO-742-S, has been running. Notice how the NO-742-S packs the short fibers well back on the clearer board. This new Armstrong cover has proved its exceptional ability to stop serious eyebrowing in more than two years of spinning in many different mills.

ARMSTRONG'S

For more information, write direct or use Reader Service post card.

PROVED CONTROL for stubborn eyebrowing

Over 2 years of tests in spinning rooms show that Armstrong's newest cot, the NO-742-S, checks eyebrowing—even on coarse yarns.

With normal picking schedules, you can be sure you'll never see an eyebrow on spinning frames equipped with Armstrong's newest roll cover, the NO-742-S Accotex® Cot.

No matter what kind of yarn you're spinning, or how coarse it is—these new cots definitely will eliminate serious eyebrowing. Their drafting surface has the "bite" needed to pick up loose fibers and pack them well back on the clearer where they belong.

Mill-tested 2 years

Mill men themselves showed us just what these cots would do, in over two years of tests run in typical spinning rooms all over the country. One mill superintendent tells us he can walk between his frames and pick out the rolls covered with these new cots without ever lifting a clearer board. "When all the others have eyebrows," he said, "these new ones don't." And he added that the longer the test runs, the better these NO-742-S cots look.

You can feel the difference, too

An overseer tells the difference with his finger tips. He says that even after more than six months of spinning, you can feel why NO-742-S covers run like they've just been put on. These covers still have their clean drafting surface. "With the NO-742-S on your frames, you don't have to run on a short rebuffing schedule to keep down eyebrowing."

This is true because the new synthetic rubber compound developed by Armstrong gives the NO-742-S a drafting surface that keeps its "bite," a surface that stays rough as it spins, without slicking or glazing. That's why so many of the test mills reported these new covers gave top-notch spinning with but one re-buffing a year.

Ask your Armstrong man about the new NO-742-S Cot. He'll be glad to get you some samples for test frames. Armstrong Cork Co., Textile Products Department, 6507 Dauphin Street, Lancaster, Pennsylvania. These new cots are also available for sale in export markets.

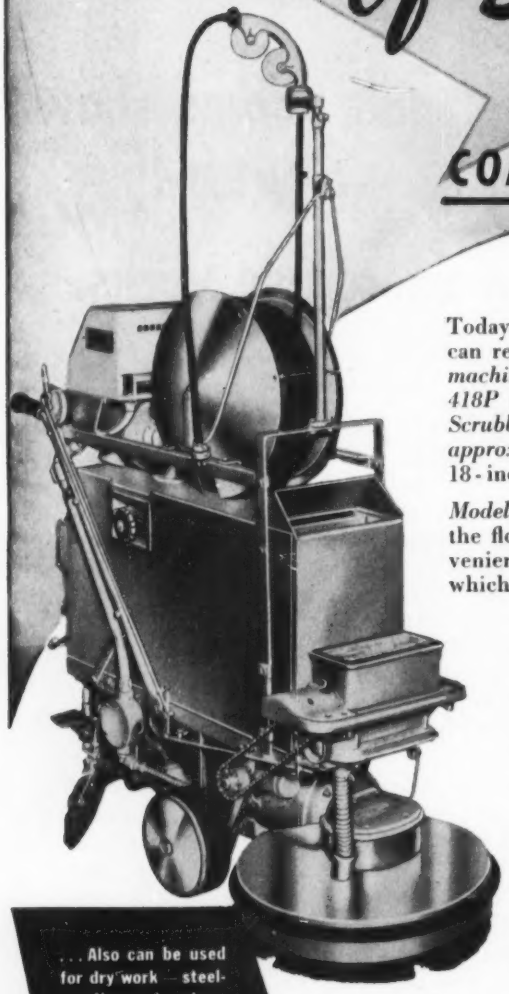
ACCOTEX COTS Ⓐ

SMALL-AREA BUILDINGS...

Save 2/3 of Every Hour of Scrubbing Time

WITH A

COMBINATION SCRUBBER-VAC!



...Also can be used for dry work — steel-wooling, et cetera

Today, even buildings with but 2,000 to 15,000 sq. ft. of floor space can reap the labor-saving, cost-reducing benefits of *combination-machine-scrubbing.* Here's a *Combination Scrubber-Vac, Model 418P* at left, that's specially designed for such buildings. This *Scrubber-Vac,* which has an 18-inch brush ring, cleans floors in *approximately one-third the time* required with a conventional 18-inch machine and separate vac unit.

Model 418P applies the cleanser, scrubs, and picks up (damp-dries the floor) — *all in one operation!* Maintenance men like the convenience of working with this single unit... the thoroughness with which it cleans... and the features that make the machine simple to operate. It's *self-propelled,* and has a *positive* clutch. There are no switches to set for *fast* or *slow*—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs efficiently and quietly. (Powder dispenser is optional.) Compactly built, the *418P* also serves advantageously in larger buildings for the care of floors in narrow aisles and congested areas.

Finnell makes *Scrubber-Vac Machines* for small, vast, and intermediate operations, and in *self-powered* as well as *electric* models. From this complete line, you can choose the size and model that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac,* and that *there's a Finnell man nearby* to help train your maintenance operators in the proper use of the machine and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1907 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

Conserve Manpower with Completely Mechanized Scrubbing

FINNELL SYSTEM, INC.

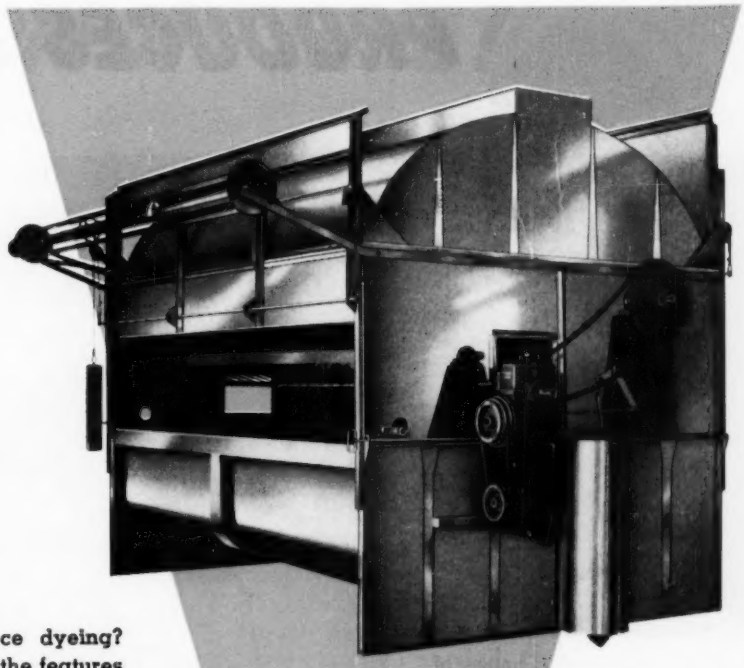
Originators of Power Scrubbing and Polishing Machines

50th Anniversary — FINNELL

BRANCHES IN ALL PRINCIPAL CITIES

Engineered For Better Dyeing . . .

Stainless Steel Becks by BURLINGTON



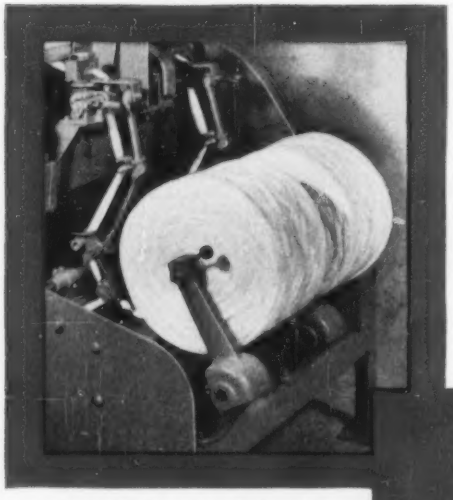
Interested in improving your piece dyeing? Then investigate the machine with all the features . . . as engineered by Burlington. Now proven in many finishing plants, this machine provides a smoother, more efficient dyeing process. The stainless steel construction is easy to clean . . . is rust, stain and chemical proof . . . wears longer than other materials, and is more economical. Burlington-built dye becks are available in either standard or special models in accordance with needs of the individual plant. *CALL OR WRITE US FOR FURTHER INFORMATION.*

Burlington Engineering Co., Inc.
Graham, N. C.
***Telephone*—6-4478, Burlington, N. C.**

BURLINGTON ENGINEERING CO., INC., GRAHAM, N. C.

NEW BALLING HEAD

PRODUCES 3½ OZ. TOP



Sliver is delivered to bottom of ball, imparting an undershot false twist to sliver.

With new balling head, operator simply swings ball out, breaks sliver, and doffs ball. Note easy working height.

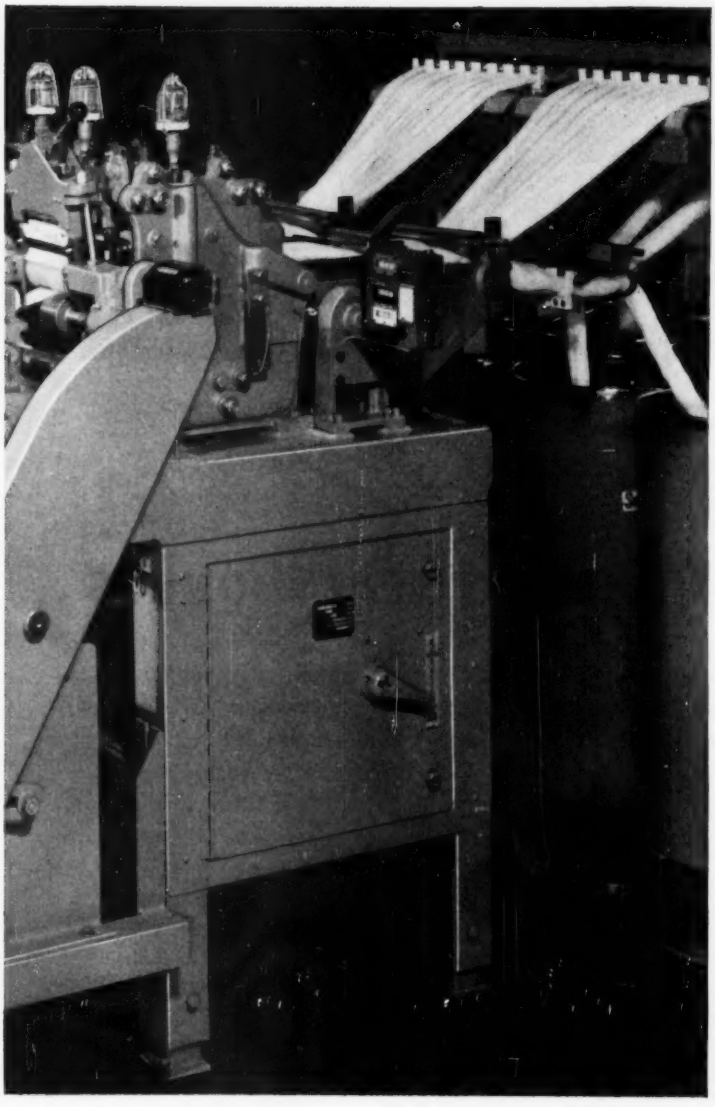
SALES OFFICES

5701 Carnegie Ave., Cleveland 3, Ohio
61 Rivulet St., North Uxbridge, Mass.
6910 Market St., Philadelphia, Pa.
Candler Building, Atlanta, Ga.
1820 Browning Ave., Charlotte, N. C.

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY

PIN DRAFTER

—CUTS DOFFING TIME!



Now 3½ oz. top direct from Pin Drafter with single meche balling head! Double meche unit delivers two 1½ oz. slivers to each ball. Eliminates subsequent operations previously necessary to produce this heavier sliver.

Cuts doffing time! Doffing is performed at convenient 28", table-height level. Sliver is delivered to bottom of ball—operator simply swings the delivery roll up and breaks sliver to doff ball.

Undershot false twist produces better quality top and a denser, neater ball weighing up to 21 lbs. for wool (higher for synthetics). Gives sliver better drafting qualities on subsequent operation—more uniform ball unwinds freely.

Tension compensator assures sliver of uniform size over entire width of ball. Delivery arm traverses, rather than ball itself. Width of ball can be varied from 10" to 14", with a maximum diameter of 15½".

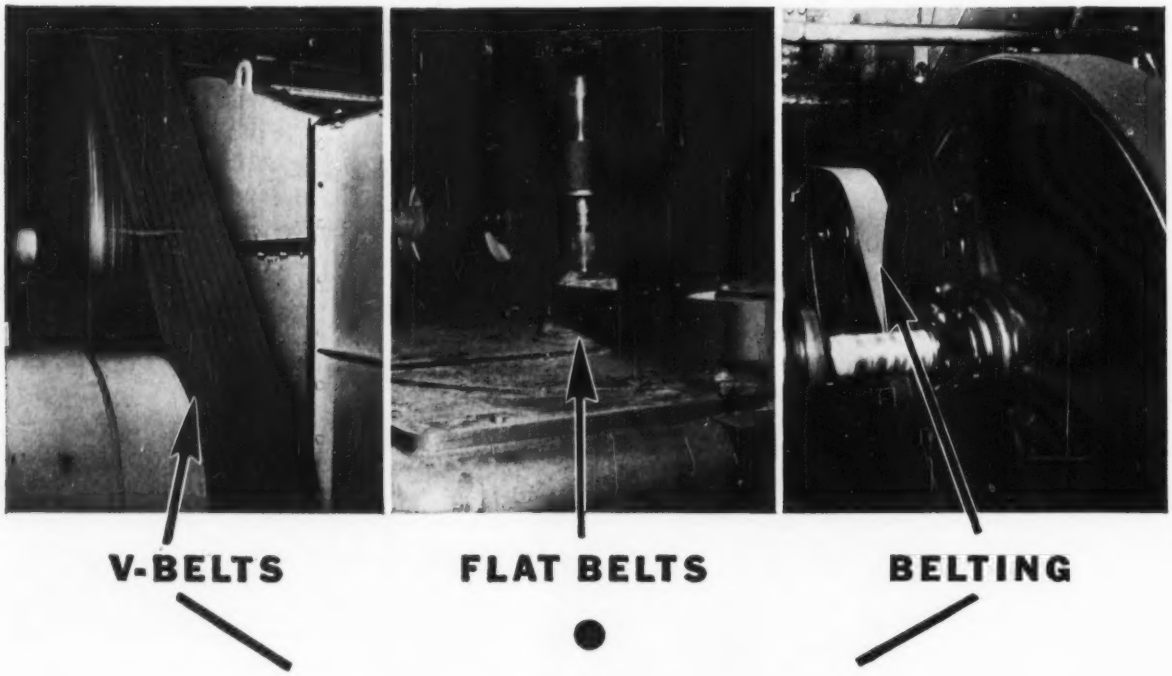
Adaptable to all dual delivery Pin Drafters.

Call in our Field Engineer nearest you for complete details!

MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

 For more information, write direct or use Reader Service post card.

INSTANT SUPPLY!



A Coast-to-Coast Chain of Warehouses

"U.S." is really geared to deliver. You actually get immediate delivery or shipment—thanks to your local "U.S." jobber backed by the strategically located "U.S." District Sales Offices and transcontinental chain of warehouses. The "U.S." Line is complete, including V-belts, sheaves, flat belts and belting for any power transmission need.

Every item in the "U.S." Line is famous for durability and for economy in maintenance. Every V-Belt has the unique Equa-Tensil Cord Section which distributes the pull so evenly among the cords that each carries its full share of the load. "U.S." engineers will study your needs for any specialized drives. See your distributor or contact any of our 25 District Sales Offices or write to address below.

MULTIPLE V-BELTS
F. H. P. V-BELTS • SHEAVES
FLAT BELTS AND BELTING
SPECIAL PURPOSE BELTS

U.S. RUBBER
SERVING THROUGH SCIENCE

"U.S." Research perfects it
"U.S." Production builds it
U.S. Industry depends on it

UNITED STATES RUBBER COMPANY
MECHANICAL GOODS DIVISION · ROCKEFELLER CENTER, NEW YORK 20, N. Y.

Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe and Fittings • Grinding Wheels • Packings • Tapes Molded and Extruded Rubber and Plastic Products • Protective Linings and Coatings • Conductive Rubber • Adhesives • Roll Coverings • Mats and Matting

For more information, write direct or use Reader Service post card.

IF YOU DO, HERE'S A THOUGHT THAT MAY SAVE YOU MANY DOLLARS!

Some users of caustic soda who require the high concentration are accustomed to buying 50% NaOH liquor and then adding dry caustic to bring it up to needed strength.

Several of our customers have recently changed to buying the 73% concentration. They store and use it at full 73% strength. All have reported substantial savings on reduced volume cost and reduced man-hours.

If you are not specifying 73%, we believe it will pay you handsome dividends to investigate it.

Our technical staff will be happy to estimate the savings possible on any volume you may select. Just jot down in the block below a tonnage figure. Our engineers will figure out for you the cost of 73% liquor, vs. the cost of 50% liquor with the addition of dry caustic to bring it up to similar concentration.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION

SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY

420 FORT DUQUESNE BOULEVARD, PITTSBURGH 22, PA.

DO IT NOW

Columbia-Southern Chemical Corporation
420 Ft. Duquesne Blvd., Pittsburgh 22, Pa.

Gentlemen: For comparative purposes only, please estimate for me the cost equivalents of_____tons of 73% caustic soda.

Name_____

Firm_____

Street_____

City_____ State_____

TENNESSEE EASTMAN COMPANY
Division of Eastman Kodak Company,
[illegible] MADISON AVENUE, NEW YORK 16, N. Y.

ENKA RAYON

Burlington Mills
"Woven into the Life of America"

Why do these leading textile mills specify HAYES LIGHTMETAL BEAMS?

Avisco®

3M COMPANY

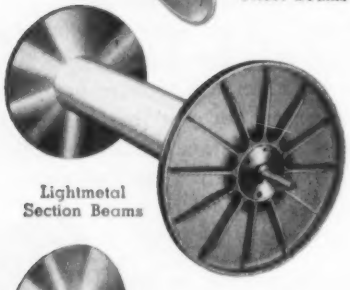
Munsingwear

HOLEPROOF

Celanese® ACETATE

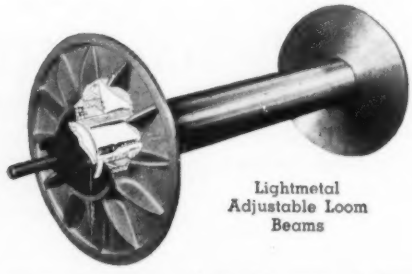
Lightmetal Loom Beams

Lightmetal Tricot Beams



Lightmetal Section Beams

Lightmetal Replacement Loom Beam Barrels



Lightmetal Adjustable Loom Beams

These textile mills choose Hayes Lightmetal textile beams because of their true-running, perfect balance, smooth surface and minimum maintenance requirements. For your answer to smooth, high-speed production, better selvages and a minimum of rejects, specify Hayes Lightmetal Beams. Write for complete information on specifications, costs and deliveries.

HAYES

the world's largest producer of light metal beams

HAYES INDUSTRIES, INC. Jackson, Michigan

EASTERN REPRESENTATIVE
J. Paul Laird
Philadelphia, Penn.

SOUTHERN REPRESENTATIVE
R. E. L. Holt Jr. & Assoc.
Greensboro, N. C.

NEW ENGLAND REPRESENTATIVE
J. S. Fallow & Co.
New Bedford, Mass.

CANADIAN REPRESENTATIVE
J. S. Fallow & Co.
Montreal, Canada

For more information, write direct or use Reader Service post card.

..THE MILL CALLED FOR:

Good spinning qualities in dyed orlon tops

The dyehouse delivered a perfect job thanks to Sandoz' Technical Service

● They needed a satisfactory lubricant to counteract the static electricity produced by orlon fibers, which prevented proper spinning of blends containing over 50% orlon. Shade, strength, light and crock fastness of dyed orlon, which are reduced by many lubricants, must be unaffected.

SUGGESTED BY SANDOZ:

Sandoz technicians suggested that Ceranine HC, a cationic product, be used. The tops were treated in a bath containing 1% acetic acid to take care of the alkalinity, and 1% Ceranine HC Conc. The goods were rinsed in this bath after dyeing for 10-15 minutes at 100° F.

Thorough tests showed a marked lubricating effect on the fiber, counteracting the static electricity that caused much trouble in spinning. Also Ceranine HC preserved the shade, light fastness, and crock fastness of the dyed orlon. The finish produced with Ceranine can be favorably compared with cashmere.

If you have a dyeing or finishing problem or would like details on Ceranine HC, call your nearest Sandoz office in Hudson, Mass.; Providence; Fairlawn, N. J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N. Y.

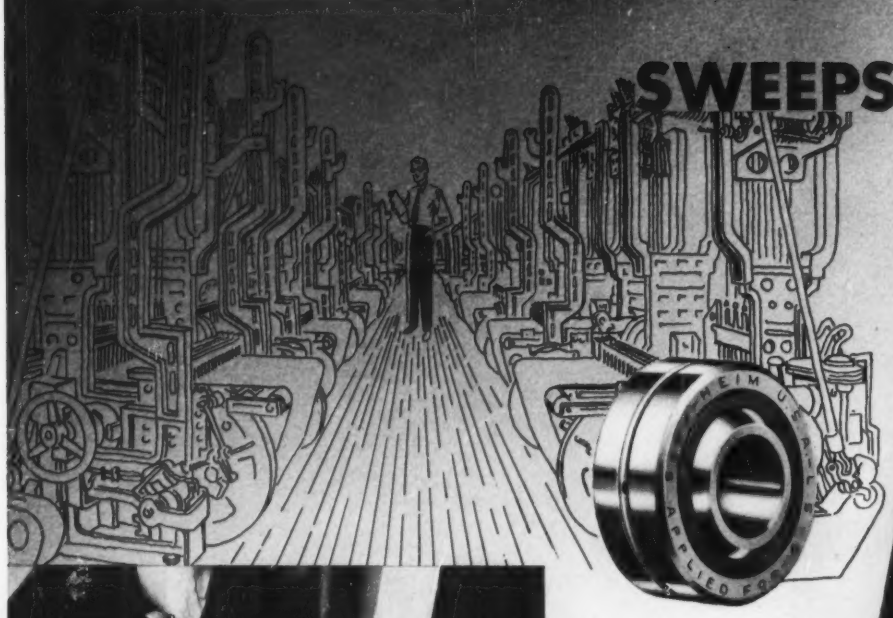
SANDOZ

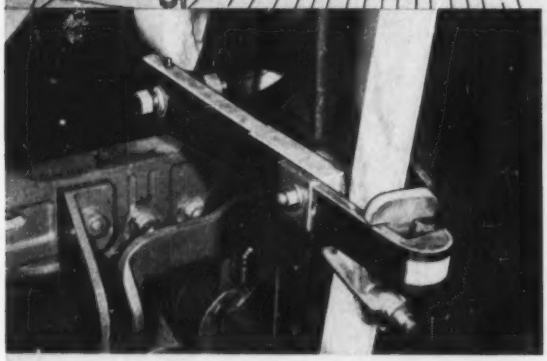
SANDOZ

THINKS AHEAD WITH TEXTILES

HEIM *Unibal*

SWEEPSTICK





The Heim Unibal Spherical Bearing, which is pressed into a rubber-bonded fabric sweepstick, is the real reason why the Heim Sweepstick delivers such smooth, trouble-free pick action. There is just no possibility for the stud hole to enlarge and cause trouble. The bearing is self-aligning and long wearing.
Put the Heim Sweepstick to work on your looms now and get set for longer, trouble-free operation with no "down time" due to sweepstick failure.

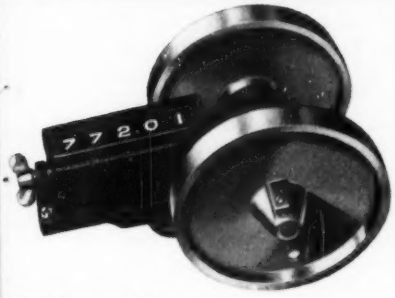
Write for bulletin and prices.

THE HEIM COMPANY
FAIRFIELD, CONNECTICUT

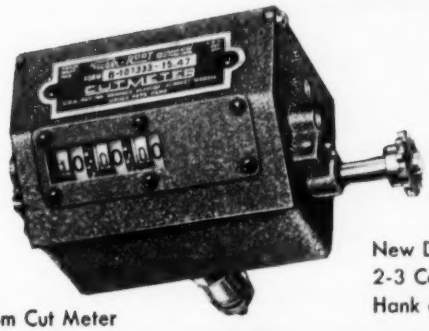
It's Clean-up Time

...RIGHT NOW!

That's right! Time to check up on the counters all through your mill . . . and figure out what you need in the way of *new* Veeder-Root Counters . . . as well as additional shift-units for present counters . . . and general servicing and repair. Look over your counting equipment with a modernizing eye. Then let us know what you need. And those counters that need service . . . send them in to us *now*.



Double-wheel Counter



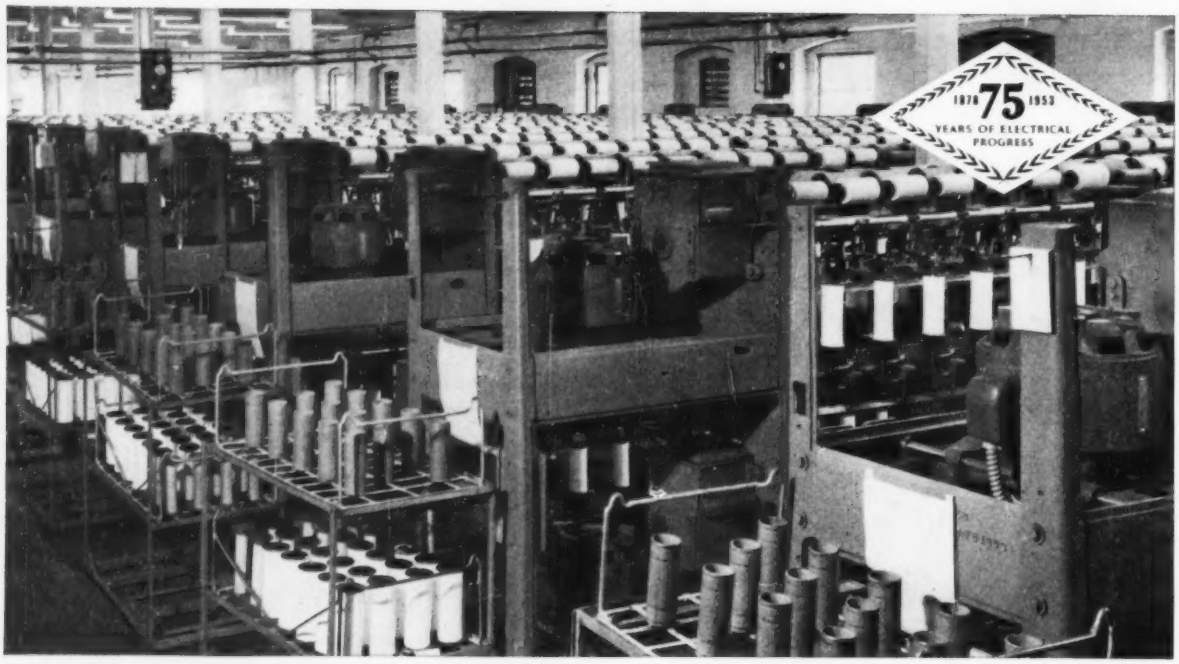
Loom Cut Meter

New Design of
2-3 Convertible Pick,
Hank and Knitting Counters

VEEDER-ROOT INC.

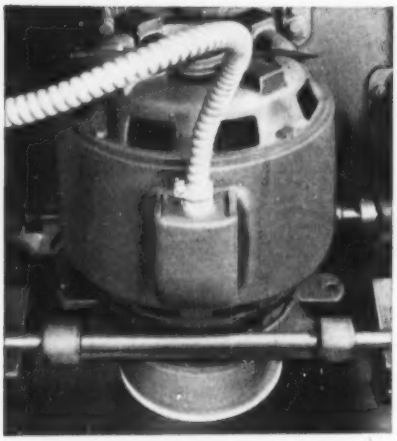
"The Name That Counts"

HARTFORD 2, CONN., Tel: Hartford 7-7201 ● GREENVILLE, S. C., BOX 297, Tel: Greenville 3-1271



MORE HORSEPOWER, SMALLER FRAMES make G-E vertical twister motors ideal for double-deck installations. Motors (shown with compartment covers removed) fit easily between decks, are easily relubricated.

G-E vertical twister motors pack high hp in small space



SHAFT-UP OR SHAFT-DOWN, these G-E motors deliver plenty of power for high spindle speeds needed on today's twisters.

Compact motors specially designed for double-deck twisters

Here's the answer to your need for twister motors with higher horsepower in smaller frame sizes—a compact, easily relubricated General Electric vertical motor specially designed to fit in limited space. Over-all motor length is shortened by keeping end shield depth to a minimum, with an effective cooling system in these round-frame motors.

Pressure relief lubrication system permits easy relubrication when needed without dismantling motor. Rigid cast-iron construction is highly adaptable to vertical face mounting. Formex* wire windings are impregnated with synthetic-resin varnish and coated with extra-tough Glyptal* red for greater dependability. These tough G-E motors are available in ratings to fit all leading makes of double-deck twisters.

Specify General Electric on your twister for the compact, reliable motor needed to keep twisting and throwing on a continuous basis. For more information contact your nearest G-E Apparatus Sales Office. General Electric Company, Schenectady 5, N. Y. 654-31

*Reg. Trade-mark of General Electric Company

You can put your confidence in—

GENERAL ELECTRIC

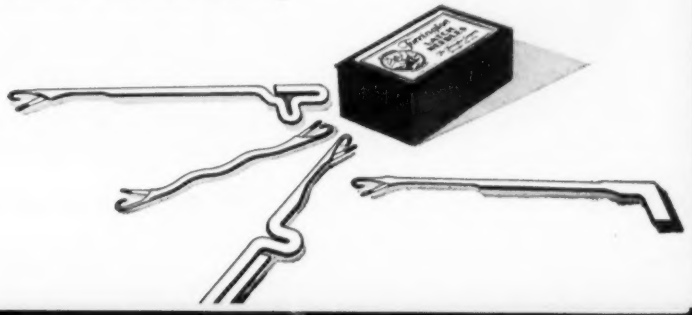
GOOD KNITTING

DEMANDS GOOD NEEDLE SERVICE

FOR NEWS OF NEEDLE ADVANCEMENTS . . .

LOOK TO TORRINGTON

Torrington is in touch with needle improvements abroad as well as in the U. S. A., through its plants and offices in the British Isles, Europe and Canada. As a user of Torrington needles, you are always among the first to benefit from advancements in needle design or construction which contribute to better performance and finer knitting.



THE TORRINGTON COMPANY
Torrington, Conn., U. S. A. · Established 1866
Branches: New York · Philadelphia · Chicago · Boston
Greensboro, N. C. · St. Louis · Bedford, P. Q. — Toronto, Canada
Pacific Coast Representative: E. G. Paules,
1762 West Vernon Ave., Los Angeles 37, Calif.
Broadgate House, 7-10 Eldon St., London E. C. 2, England

Full Cash Refund!

... if Sylvania Fluorescent Lamps don't give you best all-around performance

Try 24 Sylvania Fluorescent Lamps of any popular type. If they don't give more light and maintain color and brightness for a longer time than any other brand, send them back with your signed Certificate of Assurance and your money will be refunded.

Sylvania Fixtures are completely guaranteed—this includes every lamp, starter, and other parts—for an entire year. For full details see the Sylvania Lighting Contractor who displays the emblem at right.

QUALIFIED LIGHTING CONTRACTOR SYLVANIA SALES SERVICE

SYLVANIA

Sylvania Electric Products Inc. 1740 *Broadway, New York 19, N. Y.*

LIGHTING • RADIO • ELECTRONICS • TELEVISION

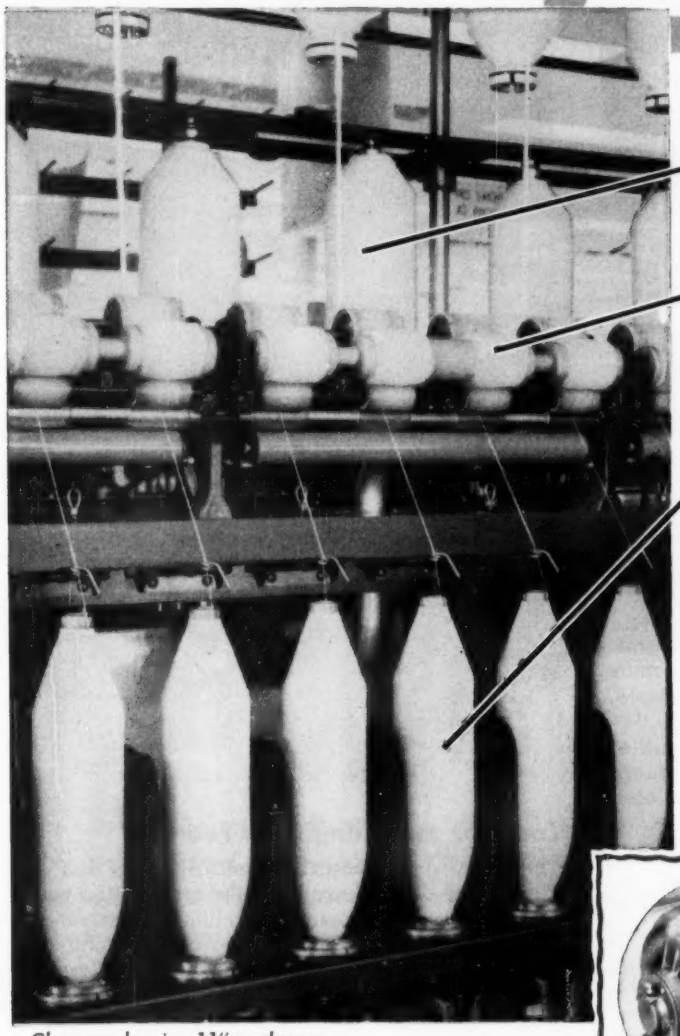
In Canada: Sylvania Electric (Canada) Ltd., University Tower Bldg., St. Catherine St., Montreal, P. Q.

for **FLEXIBILITY**

PERFORMANCE

ECONOMY of OPERATION

. . . it's the Whitin Model "F3" large package Spinning Frame



Close-up showing 11" packages of 10's cotton, using 3" ring.

Creel—easily accessible

Standard height creels are easy for the operator to reach, and provide ample storage space on the top deck for roving supply packages.

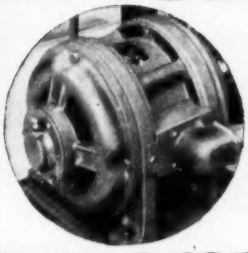
2-apron drafting system

The two apron drafting system, developed, perfected, and used by Whitin for twenty-two years, is recognized as outstanding for fiber control and drafting performance. Highly flexible in range of drafts, it is easy to clean and to operate.

Traverses up to 11"

With traverses up to 11" and packages containing up to 16 oz. on coarse counts, substantial savings in spinning can be made, with equal or superior yarn strength and quality. In addition, sharp reductions in winding costs are effected.

The Whitin F-3 Spinning Frame is designed for spinning large packages at high productive speeds. Its functional design results in minimum expense of installation operation, doffing, creeling, cleaning, lubricating and maintenance. Provision for changing traverse length and ring size has been made to insure its flexibility in meeting present and future mill requirements.



Low power consumption

The standard textile motors used keep installation, power consumption and maintenance costs at a minimum.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. · ATLANTA, GA. · SPARTANBURG, S. C. · DEXTER, ME.

The *Speedline* system saves money on stainless piping and increases flow and capacity

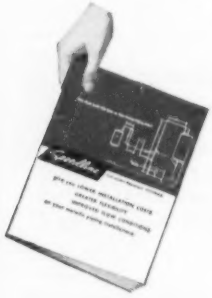
You can save money on your corrosion-resistant piping systems . . . perhaps even cut your costs in half. *Speedline* engineers have achieved these amazing results by using the new light wall stainless pipe and versatile *Speedline* Fittings. Here's the way it works:

If you are now using Stainless Pipe . . .

. . . chances are that it is the conventional Schedule 40. But this heavy wall is not needed in 90% of the cases. Light wall Schedule 5 pipe costs about half as much, and all sizes will easily withstand 150 p.s.i. working pressures. *Speedline* Fittings are specially designed for fast, low-cost installation of light wall stainless pipe lines. And because light wall pipe of the same size has a larger inside diameter than heavy pipe, you gain 15% to 25% greater flow and capacity!

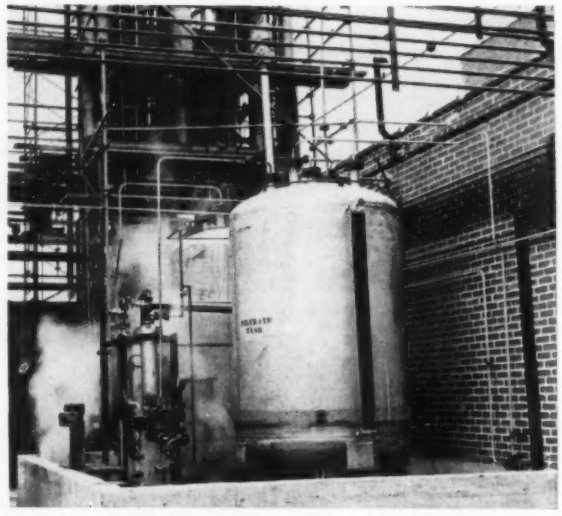
If you are now using Stainless Tubing . . .

. . . the *Speedline* system offers real savings and advantages. It permits you to change to a light wall *pipe* rather than *tubing* size—at no increase in cost. And here's where you gain. Standard equipment like valves, pumps, sight gauges, etc., are made in *pipe* sizes—you hook right in without special adapters! And equally important, *piping* permits you to use the next lower dimension (for example, 1" Schedule 5 has even greater capacity than 1¼" O.D. tube). This means that you can use smaller valves, flanges, and other accessories—an entire installation would be considerably lower in cost.

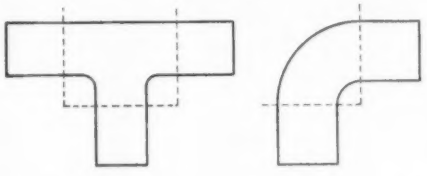


WRITE FOR THIS FREE BOOK

Just write a note on your company letterhead and we will mail the *Speedline* catalog to you. It shows why you get better results at less cost with *Speedline* Fittings.



Over 800 *Speedline* flanges are used in this installation by one of the largest chemical producers. Shortly after they were installed, a mishap occurred which caused the fluid to solidify in the lines, building up tremendous pressures. When the lines were put back into operation, not a single *Speedline* flange leaked!



Look for the "Tangential Feature"

These drawings show a *Speedline* Tee and 90° Elbow. The dotted lines show the termination points of conventional fittings. The additional straight section of *Speedline* Fittings permits attaching of unions or flanges without fouling, reduces the number of welds required, and eliminates troublesome curved or angle joints. The tangential feature is common to all *Speedline* Fittings such as Ells, Tees, Crosses, etc.

Speedline distributors are located in principal cities from coast to coast

Speedline Corrosion-Resistant FITTINGS

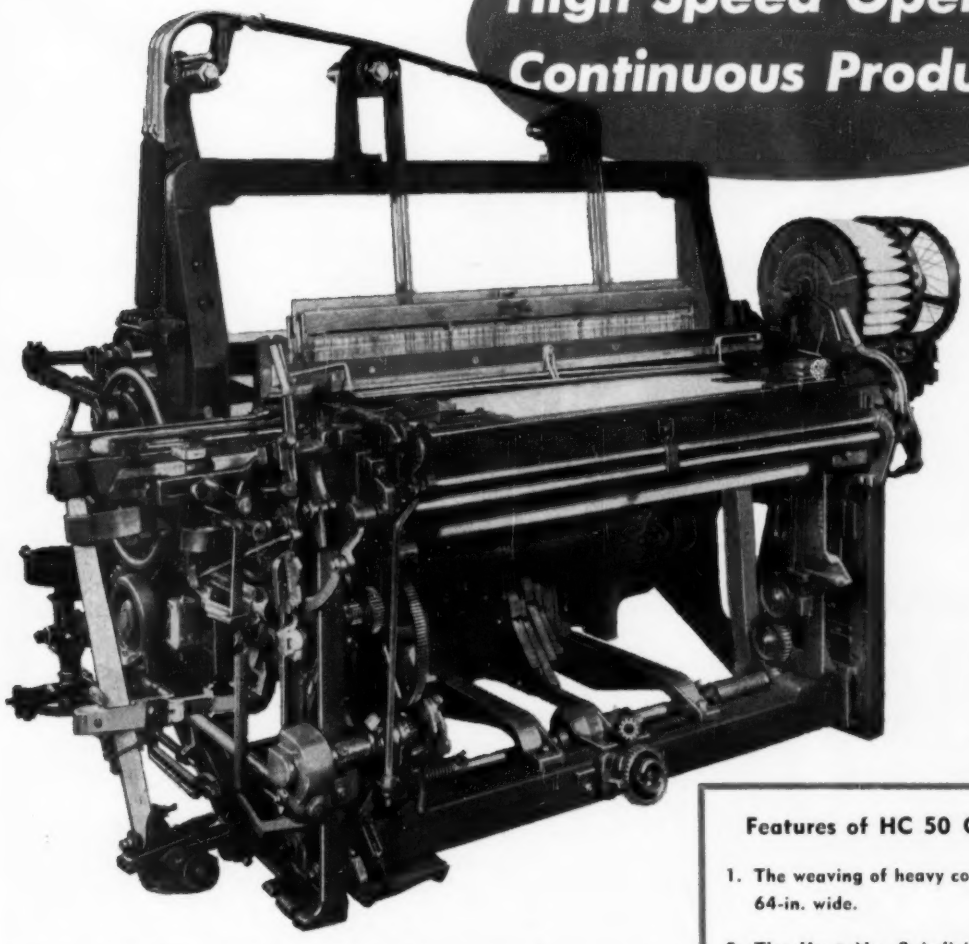
—the newest thing in pipeline economy

Manufactured by **HORACE T. POTTS CO.** • 502 Erie Ave. & D Street • Philadelphia 34, Penna.

For more information, write direct or use Reader Service post card.

The New HUNT HC 50 Cotton Loom Gives

High Speed Operation Continuous Production

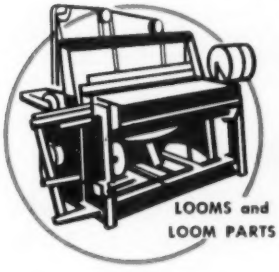


The new HC 50 Cotton Loom will give you faster production with many features that insure trouble-free operation. This new loom has heavy construction in the sides. It is equipped with the improved Hunt Spreader, giving proper alignment with four bearings on the crankshaft and two additional bearings on the camshaft.

Write now for descriptive folder and further details.

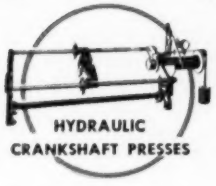
Features of HC 50 Cotton Loom

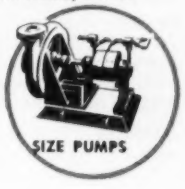
1. The weaving of heavy cotton fabrics up to 64-in. wide.
2. The Hunt No. 8 individual motor drive with demountable gear.
3. Roll and shaft, or Brown spring-top harness motion, or 20-harness dobby.
4. A crankshaft diameter of 1⅝ in. A camshaft diameter of 1 15/16 in.
5. Single, double or center fork filling motion.

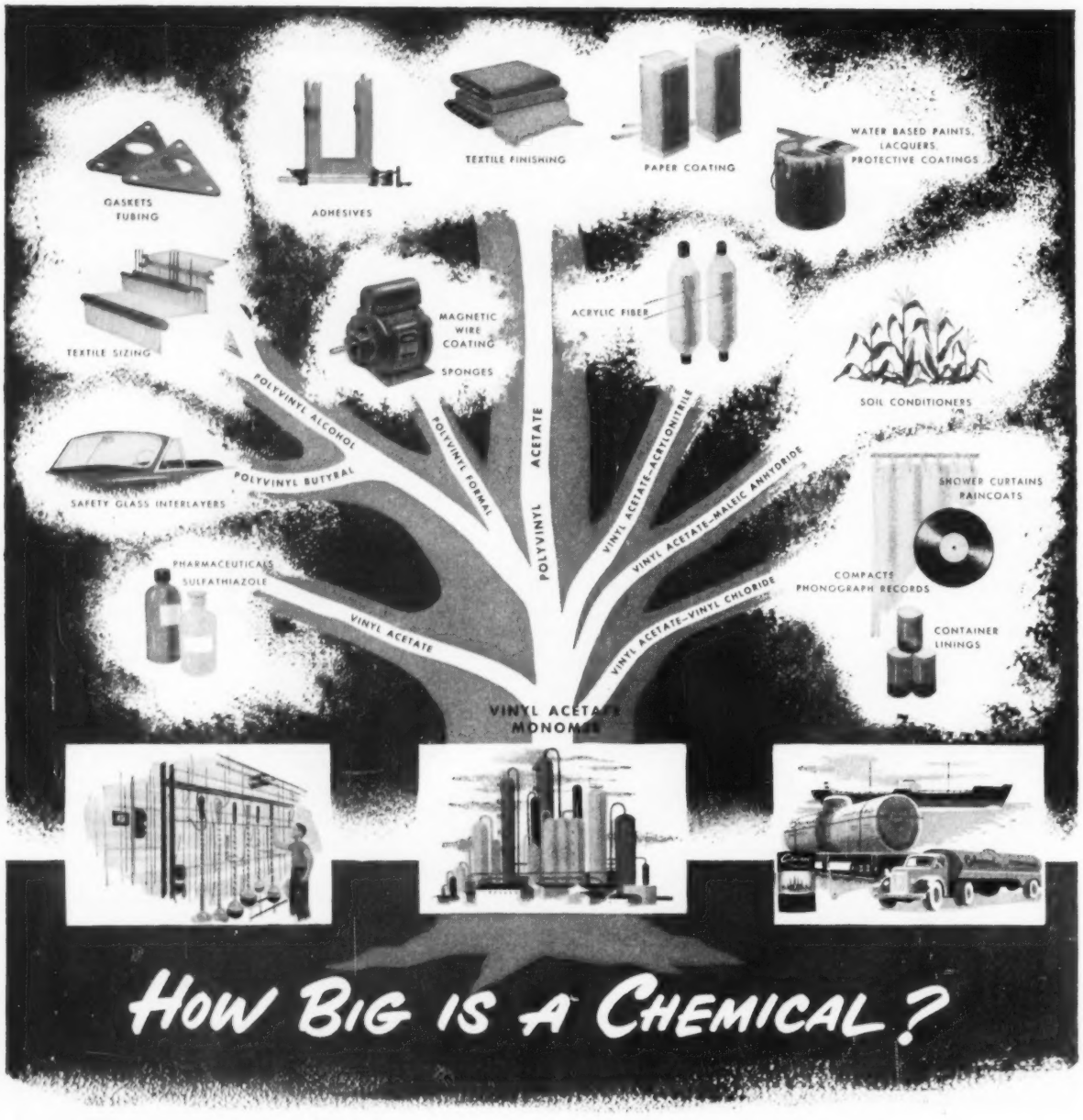


HUNT LOOM & MACHINE WORKS, INC.

200 ACADEMY ST.
GREENVILLE, S. C.







CELANESE* VINYL ACETATE MONOMER OFFERS CREATIVE OPPORTUNITIES TO HUNDREDS OF AMERICAN INDUSTRIES

How big is a chemical? As large as its production volume . . . as broad as its applications. Vinyl Acetate Monomer—the basis for countless plastic products, paints, paper, textiles, pharmaceuticals, adhesives—is big. With the start of full-scale production at the Celanese Pampa plant, Vinyl Acetate gains a bigness that opens the door to more intensive research, far-reaching product development.

Celanese Vinyl Acetate Monomer—ready in tankcar quantities within a few weeks—will be produced by specially developed processes, utilizing Celanese-produced raw materials, in the newest, most up-to-date petrochemical plant in the country. Two grades of monomer will be available: A-grade, stabilized with diphenylamine, and H-grade, inhibited with hydroquinone.

The possibilities and opportunities for vinyl acetate derivatives warrant thorough investigation. We will be glad to assist you with complete technical data and literature. Write:

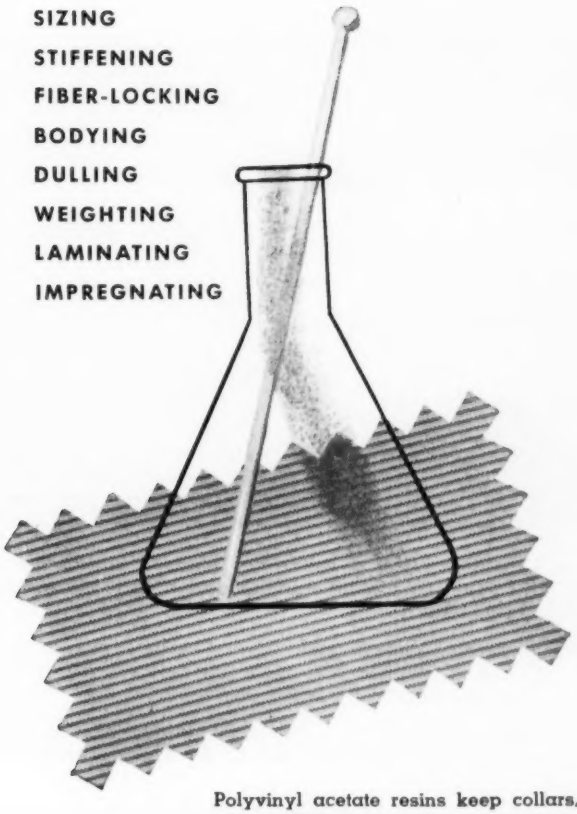
Celanese Corporation of America, Chemical Division, Dept. 571-G, 180 Madison Avenue, New York 16, N. Y.

Celanese* CHEMICALS

*Reg. U. S. Pat. Off.

Vinyl Acetate Works Many Wonders in Textile Finishing

SIZING
STIFFENING
FIBER-LOCKING
BODYING
DULLING
WEIGHTING
LAMINATING
IMPREGNATING

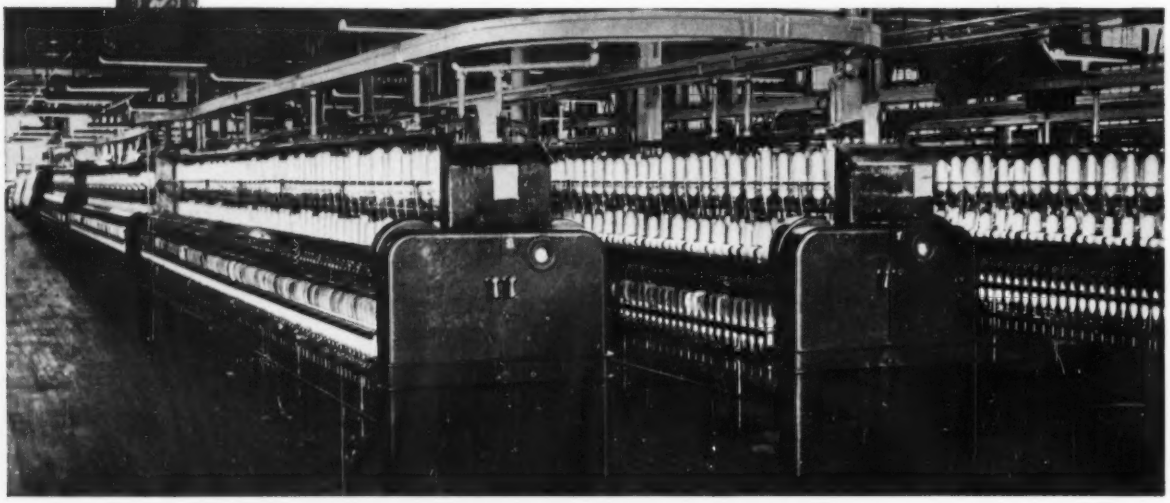


Polyvinyl acetate resins keep collars, shirts, cotton goods softly stiff through countless launderings and dry-cleanings. They prevent raveling, thread slippage . . . protect fabrics against wear and abrasion, chemicals and mildew. Polyvinyl alcohol, a vinyl acetate derivative, is a valuable size and snag-resistant finish for nylon, rayon, and silk stockings.

Celanese production of vinyl acetate monomer assures resin manufacturers dependable supplies of this basic chemical . . . offers converters and finishers increased opportunities for new process developments and improvements.

"We CUT MAINTENANCE COSTS by 13%"

...says Norman Garlington of Brookside Mills, Knoxville, Tenn.



To turn out 15 million yards of cotton and blended fabrics yearly, Brookside Mills keeps its 65,000 spindles and 1046 looms working smoothly with Sinclair Textile Lubricants.

Two years ago, General Superintendent Norman Garlington called in a Sinclair Lubrication Engineer and asked him to make recommendations for better and more economical lubrication.

After a thorough study of the mill, the Sinclair Engineer set up a comprehensive and simplified lubrication procedure and recommended specially developed Sinclair Textile Lubricants.

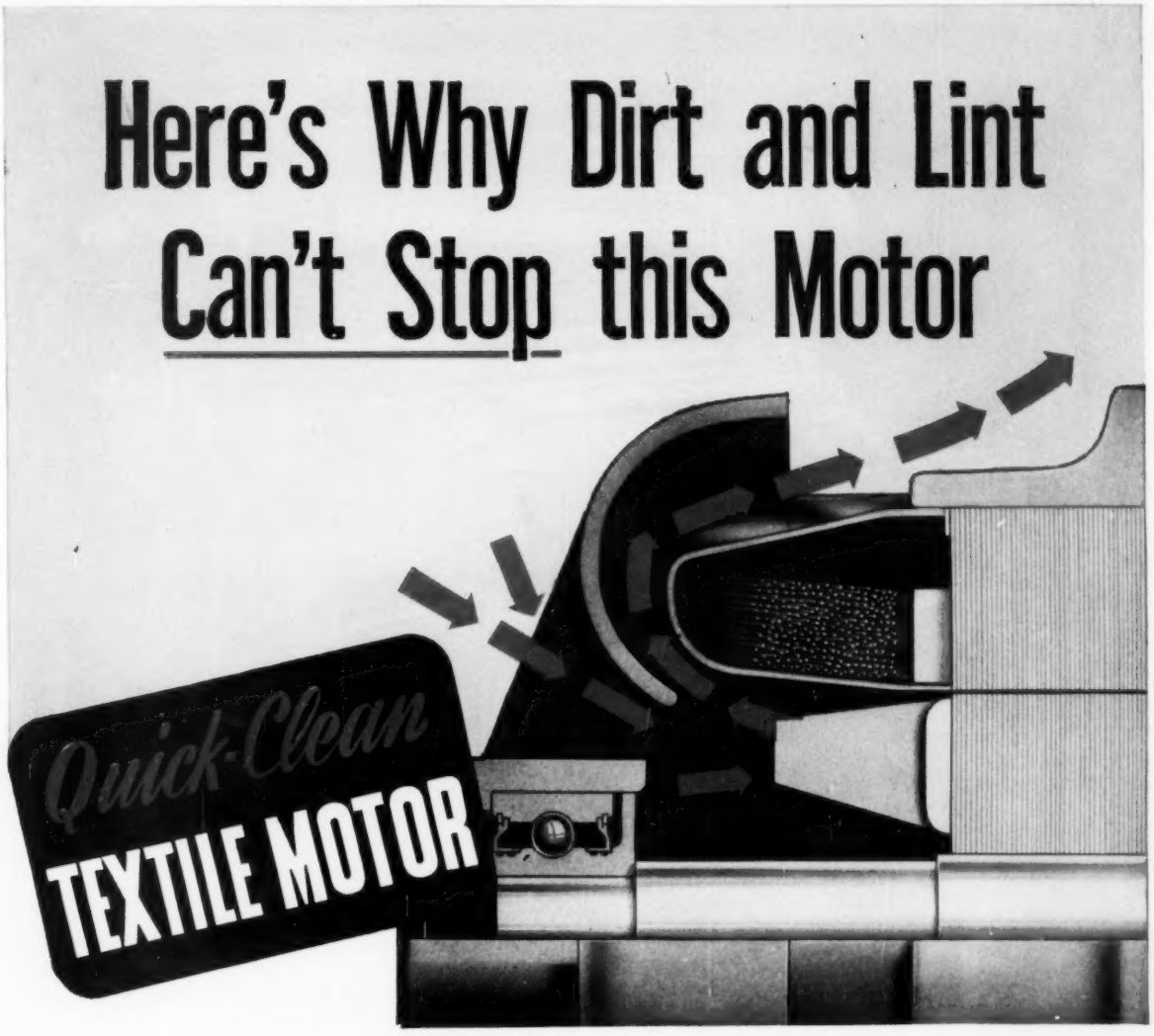
Since the new procedure was adopted, Mr. Garlington reports that, "Sinclair Textile Lubricants have cut our maintenance costs by 13%. In addition, we have *reduced* inventory . . . *saved* storage space . . . and *cut* misapplication."

About important extra services, Mr. Garlington writes, "The Sinclair Research Laboratory has been consulted on several tough problems and results were quickly obtained."

To get in touch with a Sinclair Lubrication Engineer, call your local Sinclair Representative or write to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

SINCLAIR TEXTILE LUBRICANTS

Here's Why Dirt and Lint Can't Stop this Motor



Wide Open Design Allows Powerful Fans To Sweep Lint And Dirt Right Out Of Quick-Clean Motor!

YOU HAVE NO MOTOR PROBLEM from lint-laden atmospheres when you use *Quick-Clean* textile motors. *Quick-Clean* motors have wide open passages for cooling air and powerful fans to sweep lint and dirt right out of the motor. Inside surfaces are smooth and hard so lint cannot lodge anywhere. Air passages are shaped for smooth air flow.

Quick-Clean motors also save you money with sealed bearings which eliminate usual expensive bearing maintenance procedures. Grease or oil cannot leak from the bearings to soil materials or gather lint and dirt. Lint and dirt cannot enter the bearing. Ask your nearest Allis-Chalmers Sales Office about the *Quick-Clean* textile motor. Or write for Bulletin 51B6055. Allis-Chalmers, Milwaukee 1, Wis.

A-3970

Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers *trademarks.*

Sold . . .
Applied . . .
Serviced . . .

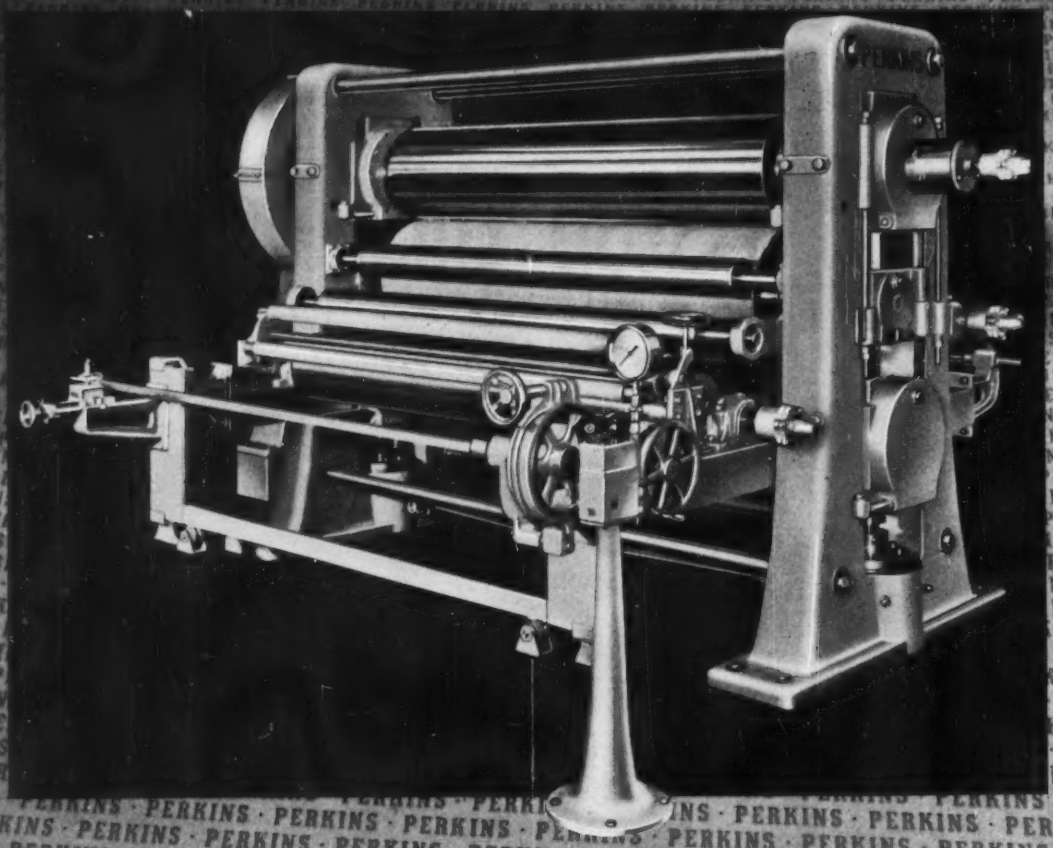
by Allis-Chalmers Authorized Dealers, Certified Service Shops and Sales Offices throughout the country.

CONTROL — Manual, magnetic and combination starters; push button stations and components for complete control systems.

TEXROPE V-belts in all sizes and sections, standard and *Vari-Pitch* sheaves, speed changers.

PUMPS — Integral motor and coupled types from ¾ in. to 72 in. discharge and up.

ALLIS-CHALMERS



PERKINS POINTS WITH PRIDE

to this new three-roll 83" face 60-ton Hydraulic Rolling Calender. Top and bottom rolls, chilled iron. Intermediate roll, cotton. This calender is equipped with variable speed drive, pre-heating drum, cooling drum, three-bar tension group and a let-off which is adjustable laterally and horizontally.

B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

CALCO dyelines

Advertisement
No. 32 of a series

PREPARED BY AMERICAN Cyanamid COMPANY CALCO CHEMICAL DIVISION
DYESTUFF DEPARTMENT, Bound Brook, New Jersey
New York • Chicago • Boston • Philadelphia • Charlotte • Providence

Two Good Workers for Work Clothing

Calcosol* Olive T Paste and Calcosol Olive TR Paste satisfy the most rigorous end use requirements because:

- they possess extraordinary fastness to sunlight, even in very pale shades.

- they possess excellent fastness to laundering, dry-cleaning and the other destructive influences encountered in normal consumer use.

Calcosol Olive T Paste and Calcosol Olive TR Paste satisfy the most critical dyer because:

- they are formulated for trouble-free application, by any method of dyeing. They are ideal for high-speed, continuous dyeing methods such as Williams unit and pad steam processes.
- they build up well to produce government OD and civilian work clothing shades economically.

		Fastness
Light	Light shade	7-8
	Medium shade	8
	Dark shade	8
AATCC Wash Test No. 3		5
AATCC Wash Test No. 4		4-5
Boiling Soap & Soda		4-5
Chlorine (0.3% Av. Cl_2)		4-5
Peroxide		4-5
Perspiration		5
Dry-cleaning (Stoddard solvent)		5

Denims Come To Life

Judicious use of man-made fibers and a wide range of fast and vivid dyes has given new life and style to denims. The additional wear resistance and improved appearance obtained by introducing a moderate percentage of fibers such as nylon and viscose rayon more than compensate for the extra cost of the new denim fabrics.

Advanced dyeing procedures and the availability of a wide range of fast vat and azoic dyes has spurred the demand for denims in many apparel fields heretofore closed to the indigo or black all-cotton denims.

Calco's position as a leading supplier of vat and azoic dyes has been achieved through the efforts of its Technical staff, a group of men trained and experienced in the dyeing of textiles. They offer a full line of quality dyes and prompt efficient handling of your problems, either at your plant or in our fully equipped district office laboratories.

A Whitener-Brightener for Textiles

Calcofluor* White 2RT is a new textile whitening agent which has been added to the Calco line to widen the range of properties available to the textile processor. Its action is similar to that of the other Calcofluor Whites in that it displays a blue fluorescence when applied to cotton or rayon and when viewed under ultraviolet light. In textile fabrics it enhances the whiteness of white materials, it improves the contrast of print materials, and brightens the shades of many pastels.

The fluorescence of Calcofluor White 2RT is a reddish blue, in comparison to Calcofluor White T or Calcofluor White 4BT. One of the outstanding properties of Calcofluor White 2RT is its ability to level well even though it has a nearly complete exhaustion. It can be used in the same bath with a peroxide bleach with no loss in strength.

The Calco line of textile brighteners now includes Calcofluor White RT, Calcofluor White T, Calcofluor White 4BT and Calcofluor White 2RT for cotton and rayon; and Calcofluor White RW for nylon, wool and cellulose acetate.

For the Textile Bookshelf

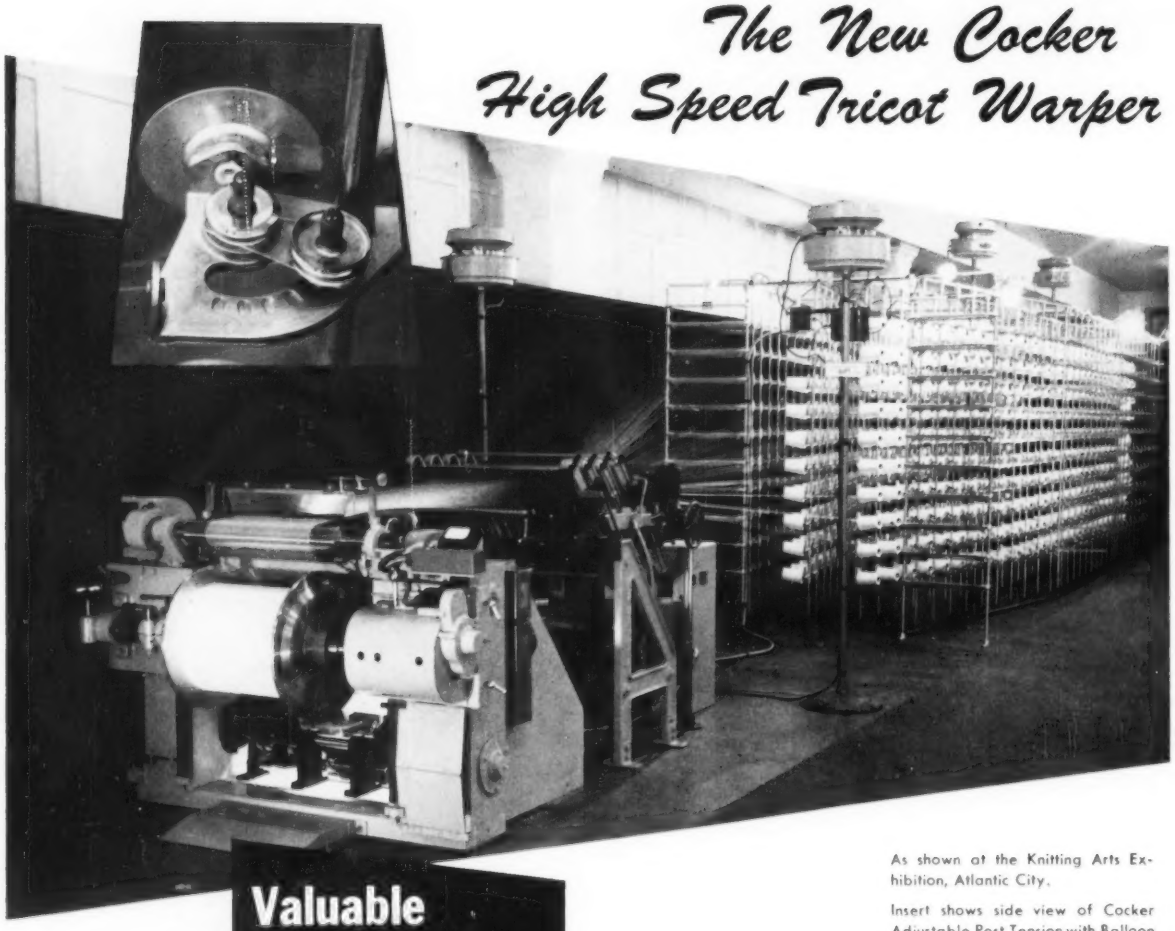
Application of Dyes to New Synthetic Fibers (Calco Technical Bulletin No. 826). A carefully compiled record of existing data on the new synthetic fibers. Dyeing methods for the coloring of the new synthetic fibers and fastness properties to look for are covered in this paper.

Identification of Synthetic Fibers by Microscopical and Dye Staining Techniques (Calco Technical Bulletin No. 831). Review of stain and microscopical identification tests which have been found very useful in determining the fiber composition of materials being colored. This is often difficult because of the many combinations which are possible and because of the newness of many of the fibers.

*Trade-mark

There are approximately eleven miles of railroad tracks at Calco.

The New Cocker High Speed Tricot Warper



As shown at the Knitting Arts Exhibition, Atlantic City.

Insert shows side view of Cocker Adjustable Post Tension with Balloon Breaker.

Valuable New Features

Air Doffing

Air Operated Presser Roll

insuring constant pressure of presser roll against beam for entire length of warp.

Front Carrier Roll Lowered

cutting distance of yarn travel from cross-over roll to beam.

Also Shown

Storage Rolls and Cone Creel, with creel equipped with the new Cocker Adjustable Tension, Eyeboard Stop Motion, and DMRT Electronic Relay.

For the very best in warping all types of yarn, we offer the above equipment for handling either 21" or 42" beams with 21" diameter flanges.

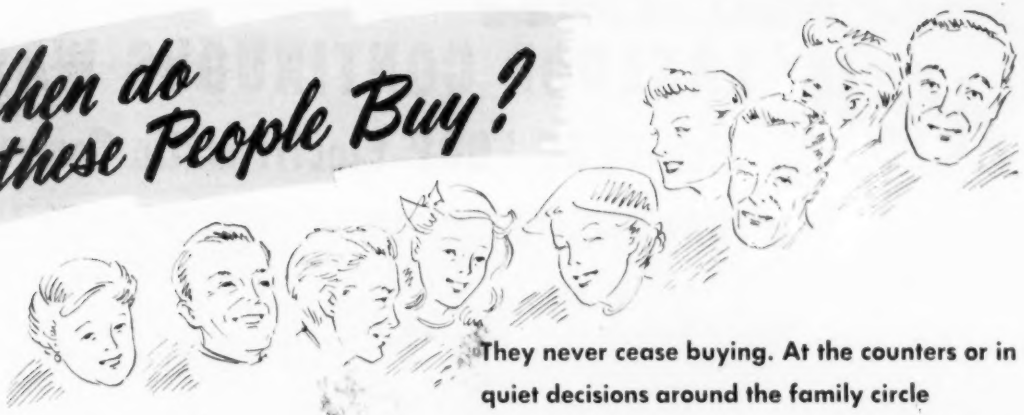
Write or wire for full particulars.

THE LEADER
COCKER
AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

When do these People Buy?



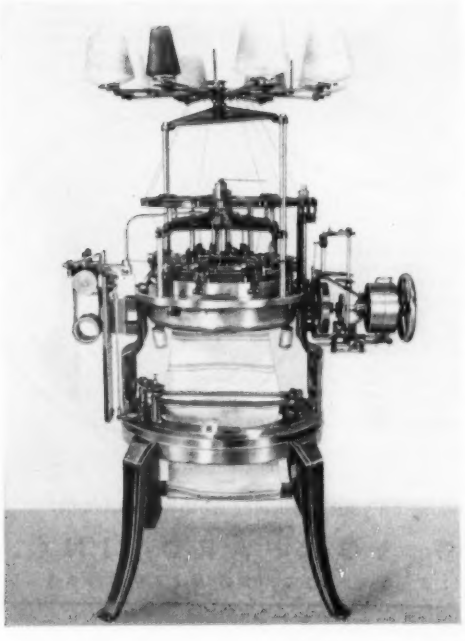
They never cease buying. At the counters or in quiet decisions around the family circle they want to possess, constantly, the best buys.

SALES and PROFIT WISE, what does this mean to You?

Before apparel travels from the counters to the ultimate purchaser in his home, his or her desire to *possess* must be awakened. Your constant promotion and selling effort is a part of this awakening effort, but . . .

TO BE SPECIFIC . . . . . .

Nothing can be started unless you have the right equipment, adaptable equipment proven in operation. This WILDMAN Rib Fabric Striping Machine offers the highest versatility — knits one by one or two by two fabric, striped fabric of unlimited patterns, half cardigan, English or round welt, French or Tubular welt and clearing course or draw thread. Combinations of the variety of stitches produces fabrics for cuffs, collarettes, sweater bottoms, underwear, outerwear, sportswear and beachwear. Belt or individual motor drive. Inquire today for complete details.



WILDMAN
Mfg. Co.
NORRISTOWN, PA.

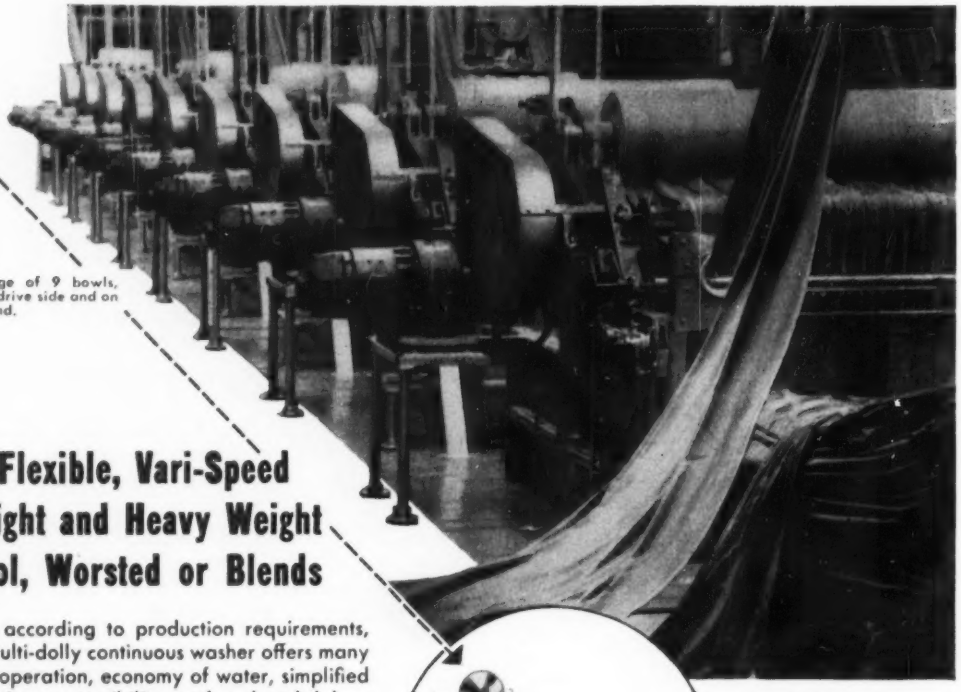
Manufacturers of: Full Fashioned Hosiery Machines; Circular Machines for Outerwear, Underwear, Sportswear, Trimmings; Stop Motions

The Fleet Line's

NEW LAXLOOP CONTINUOUS WASHER

PAT. APPLIED FOR

with FREE-LOOP Electri-matic Compensators



Complete range of 9 bowls, seen from the drive side and on the entering end.

An Improved, Flexible, Vari-Speed Machine for Light and Heavy Weight Fabrics of Wool, Worsted or Blends

Made in various sizes according to production requirements, this newly developed multi-dolly continuous washer offers many advantages in ease of operation, economy of water, simplified automatic synchronization, accessibility and reduced labor. Among the many improvements over existing washers are:

1 Stainless steel construction throughout.

2 AC-DC drive with rheostat speed control — no side shaft to prevent easy accessibility. Variable speed according to number of bowls and operating conditions.

3 Positive counter current flow, with constant uniform pre-determined liquor level in each tub. Made possible by R & L stainless steel Flooded Suction Low Head Pump.

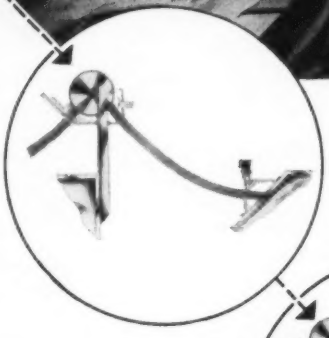
4 New shape of tub for smoother operation and fewer stops for rethreading.

5 Each unit kept in step by the new Riggs & Lombard FREE-LOOP Electri-matic Compensators. Cloth is tensionless throughout the range. Threading is faster and easier.

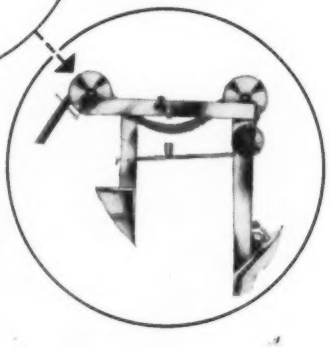
6 Folding or plaiting cleat rolls provided for smoother operation and uniform treatment.

7 Provision can be made for flow of liquor to stop automatically when machine stops, effecting increased hot water savings.

8 Cloth fully protected against damage by electric stop motions.



FREE-LOOP Electri-matic Compensator, Bar Type — When two loops of cloth complete electrical circuit by making contact with two metal bars, main drive on next tub speeds up or down as required.



FREE-LOOP Electri-matic Compensator, Trip Type — Loop of cloth runs in a synchronizing position between two electric eye units. When loop intercepts the proper beam, drive on the next tub changes speed as required. Trip bars can be used instead of photo-electric cells.

We will be glad to make recommendations on your particular washing problems.

The Fleet Line

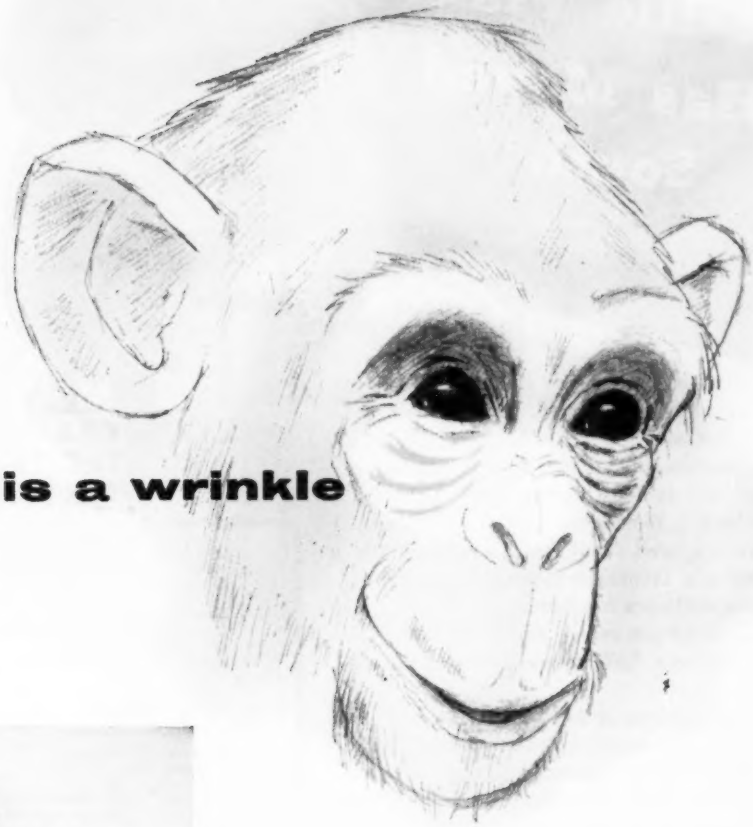
A complete line of modern equipment for the successful handling of present-day carbonizing, wet-finishing and dyeing requirements.

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

Agents: Paul A. Merriam, 1491 Broad St., Prov., R. I. • Charles H. Dunker, 1236 So. Maple Ave., Los Angeles 15, Calif. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill. • F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C. • Harold A. Zayotte, Jr., P.O. Box 125, Riverton, N. J.

For more information, write direct or use Reader Service post card.



This is a wrinkle

A wrinkle has its "sometimes." Sometimes, on a monkey's face, for instance, it has a lot of charm. Sometimes, when it spoils the line of a skirt, the fit of a fabric, its nuisance value is considerable.

That's why Du Pont is proud to have contributed to the retirement of the wrinkle—through the scientific development of modern-living fibers. Nylon, "Orlon", "Dacron"... each in its way contributes to textiles the strength and the value of wrinkle resistance. These modern-living fibers offer customers what they want today—wearable, packable clothes, worry-free, wrinkle-free pleats, men's wear, women's wear, and home furnishings of extraordinarily care-free wrinkle resistance.

And wrinkle control is only one of the many better values for better living that you can count on when you create fabrics made from Du Pont's modern-living fibers.

DU PONT'S MODERN LIVING FIBERS

NYLON | RAYON | ACETATE | ORLON® ACRYLIC FIBER | DACRON® POLYESTER FIBER

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Maine is proud of this record. It shows that the Pine Tree State offers many advantages to her textile manufacturers and converters. Included among them are famous names such as Bates, Goodall-Sanford, Worumbo, W. S. Libbey, Pepperell, Saco-Lowell — all leaders in their field.

Maine laws are favorable to textile operations, two and three shifts are frequent.

Maine has an ample reservoir of loyal, skillful, experienced workers. Labor-management relations are "tops".

Maine's tax structure is most advantageous. All real and personal property taxes are levied at the local level. This assures assessments that will not hurt the concern that is helping to support the community. There is no state income tax.

In Maine you can have all the advantages of small community location, a modern plant to your specifications on a long term, low cost basis, and in addition you and your family will feel at home and really enjoy living.

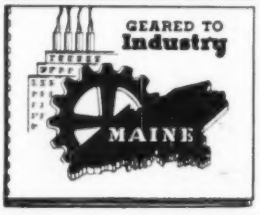
MAINE GEARED TO THE TEXTILE INDUSTRY

Experienced, Productive Loyal Labor	Access to Major Markets
Exceptionally fine Labor-Management relations	Excellent Rail, Truck, Air and Ocean Transportation
Favorable Tax Structure	Healthful, Productive Climate
No State Income Tax	Abundant Economical Power
Small Community Location	Unlimited Natural Resources
Sound State and Local Government	5 Major Rivers, 25,000 Lakes, 5,000 Streams
	Good Schools and Colleges

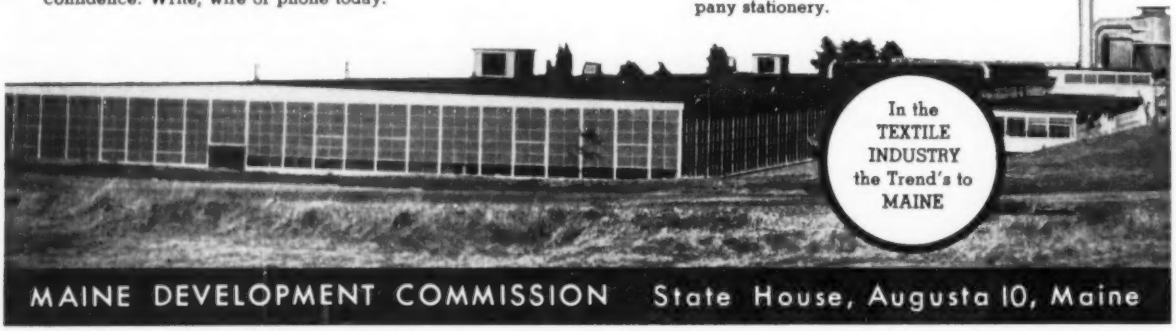
And Maine is a grand place to live, to work, to play

Ask About The MAINE COMMUNITY PLAN

Our trained industrial engineers are at your service without cost or obligation, and your inquiry will be held in strictest confidence. Write, wire or phone today.



FREE — Big, beautifully illustrated 36 page brochure giving facts and figures on Industrial Maine will be sent without cost or obligation to executives. Ask for it on your company stationery.



MAINE DEVELOPMENT COMMISSION State House, Augusta 10, Maine

NOW! THE COLOR ON THE OUTSIDE TELLS THE COLOR ON THE INSIDE!

New Pittsburgh Color-coded Dyestuff drums Save you time and labor in your stockroom

You can say goodbye now to mistakes and wasted motion in your dye storage area! For all Pittsburgh Dyestuff drums are *color-coded* for easy, instant identification. The entire center portion of every 30-gallon drum is painted the same color as the dye it contains. And the label, too, is printed in the color of the dye.

So from now on, when you buy Pittsburgh Dyestuff, you'll be buying fine dyes that are quality controlled from coal-to-color, *plus* the extra convenience of easy-to-identify, color-coded drums. It's one more reason why it pays to buy *basic* . . . buy Pittsburgh!

W&O 4433

PITTSBURGH COKE & CHEMICAL CO.

COAL CHEMICALS • AGRICULTURAL CHEMICALS • FINE CHEMICALS • PROTECTIVE COATINGS • PLASTICIZERS • ACTIVATED CARBON • COKE • CEMENT • PIG IRON

 For more information, write direct or use Reader Service post card.

NON-FLUID OIL

TRADE MARK REGISTERED

Ups Loom Production

Drip-less, waste-less NON-FLUID OIL, the leading lubricant in the textile field, *ups* loom production and outlasts ordinary oils 3 to 5 times. It remains *in* the bearings where it belongs—and off the goods and floor so provides *constant* lubrication, keeping machines in *steady* service and holding down oil bills.

Dripping, leaking, ordinary oil lowers loom production because it won't stay in bearings and creeps and spatters on warps, goods, and floor, causing oil spot "seconds".

A-#00000 grade NON-FLUID OIL is recommended for general oiling of looms. Write for Bulletin T-20 together with a free testing sample and prove for yourself that NON-FLUID OIL provides cleaner and better loom lubrication at less cost than ordinary oils.

NEW YORK & NEW JERSEY LUBRICANT CO.

292 MADISON AVE., NEW YORK 17, N. Y. • **WORKS: NEWARK, N. J.**

SOUTHERN DISTRICT MANAGER: Lewis W. Thomason, Jr., Charlotte, N. C.

WAREHOUSES: Atlanta, Ga.—Birmingham, Ala.—Charlotte, N. C.—Chicago, Ill.—Columbus, Ga.—Detroit, Mich.—Greensboro, N. C.—Greenville, S. C.—Providence, R. I.—St. Louis, Mo.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture.

Yarn of Identical Color from 6 Different Beams

. . . because All 6 were Dyed in the Same Bath

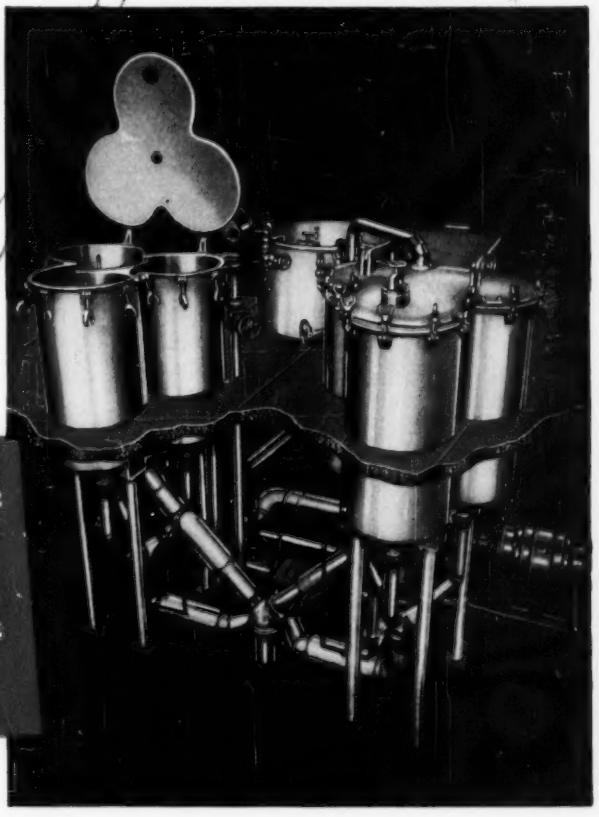
You can be positive of securing identical color only when the different beams or packages of yarn are dyed under identical conditions. And identical conditions are certain only when they are dyed in the same bath!

SMITH-DRUM Combination Beam and Package Dyeing Machines are designed to handle from 2 to 6 beams or yarn carriers simultaneously in the same bath and under identical conditions. This means that each beam or yarn carrier is dyed with the same liquor ratio . . . under the same operating conditions of flow, pressure and temperature . . . with uniform distribution of additions to the dye bath.

If you are interested in absolute uniformity of dyeing results, in economy of operation, in saving of floor space . . . let us arrange to have one of our representatives discuss the possible application of this SMITH-DRUM Machine to your operations. A letter, telephone call or wire will receive our prompt attention.

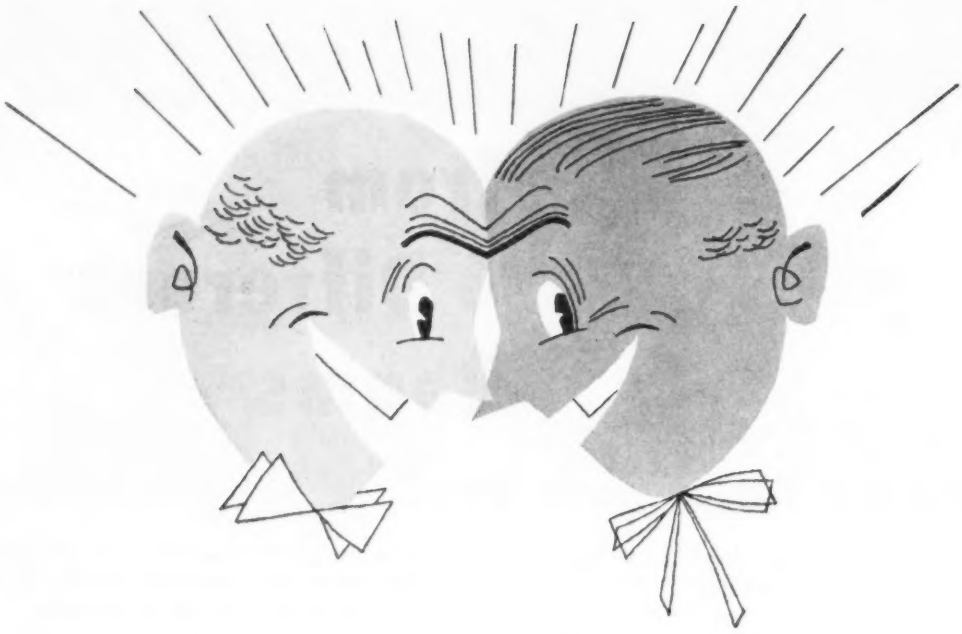
SMITH, DRUM & COMPANY
432 W. Allegheny Avenue, Phila. 33, Pa.

Southern Sales Representatives:
PARROTT & BALLENTINE
610 South Carolina National Bank Bldg.
Greenville, South Carolina



The **SMITH-DRUM** *Machine that Dyes from 2 to 6 Beams or Yarn Carriers in the Same Bath!*

Free copy of Catalog No. PBD-801 will be sent to you on request

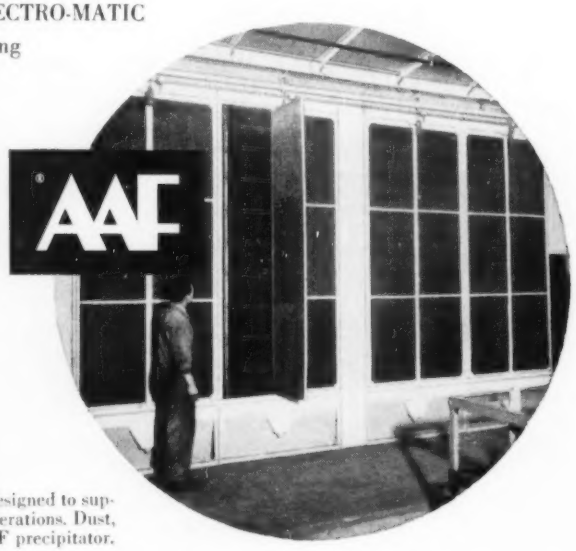


YOU SPIN THE YARN... *We'll Keep it Clean*

That's our business. We make the world's finest and only complete line of air cleaning equipment. We design and build this equipment to meet the ever-expanding needs of American industry. That's why we developed the ELECTRO-MATIC—a self-cleaning electronic precipitator that removes practically every trace of air-borne contaminants from the air—even smoke!

The ELECTRO-MATIC makes it possible to spin . . . weave and dye under ideal atmospheric conditions . . . free from discoloration. The value of the ELECTRO-MATIC has been proved in textile and hosiery mills the country over and has contributed greatly to the beauty and brilliance of today's delicately-hued fabrics.

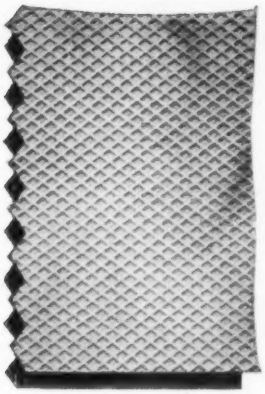
Write today for complete information on the ELECTRO-MATIC precipitator and how it will solve your air cleaning problems . . . economically and profitably. Ask for Bulletin 250.

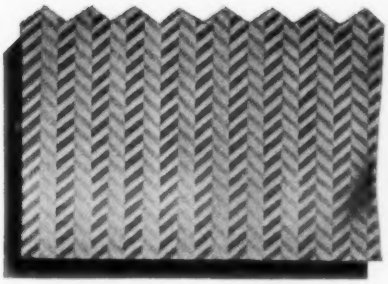


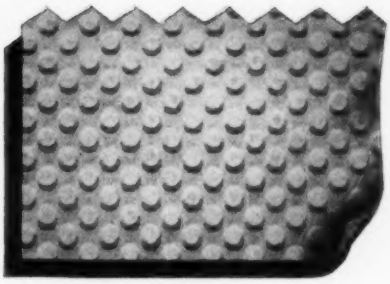
expect the best from

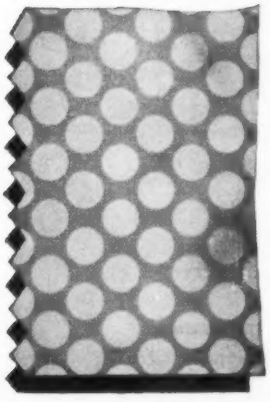
American Air Filter
COMPANY, INC.
304 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

Here is a rear view of an ELECTRO-MATIC precipitator installation, designed to supply a constant volume of super clean air for textile and hosiery mill operations. Dust, dirt and even smoke are eliminated by this exclusive, self-cleaning AAF precipitator.









Embossed finishes... of all types... that stand up... after repeated washings...

Calendering and RHONITE R-1 just naturally go together—whether the desired effect be plain, chased, friction, Schreiner or deep embossed. And RHONITE R-1 gives you an important plus value, too—its wide range of calendered effects, from plain to moiré, outlasts repeated washings. It will pay you to get full details of this extra durable embossing resin, RHONITE R-1. Write us today.

RHONITE R-1 *is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.*

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

...with TYCOL lubricants on hand!

Cleaner because they cling! Tycol Amortac oils are tailored for mill operations with a special additive to impart positive "non-drip" characteristics. They'll lubricate looms, also top rolls on spinning, drawing and roving frames... with no "throw off", no staining of finished threads! The Amortac series is just tacky enough to penetrate and cling to bearings – without splash – at peak roll speeds. With an added bonus: they'll minimize corrosion even in the most humid atmosphere! Request full information from your local Tide Water Associated office – today!

Over 300 Tycol industrial lubricants are at your disposal . . . engineered to fit the job!

REFINERS AND MARKETERS OF VEEDOL . . . THE WORLD'S MOST FAMOUS MOTOR OIL

TYCOL
INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C. • Pittsburgh
Philadelphia • Chicago • Detroit
Tulsa • Cleveland • San Francisco
Toronto, Canada

TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N.Y.

For more information, write direct or use Reader Service post card.

JENKINS PRACTICAL PIPING LAYOUT 67

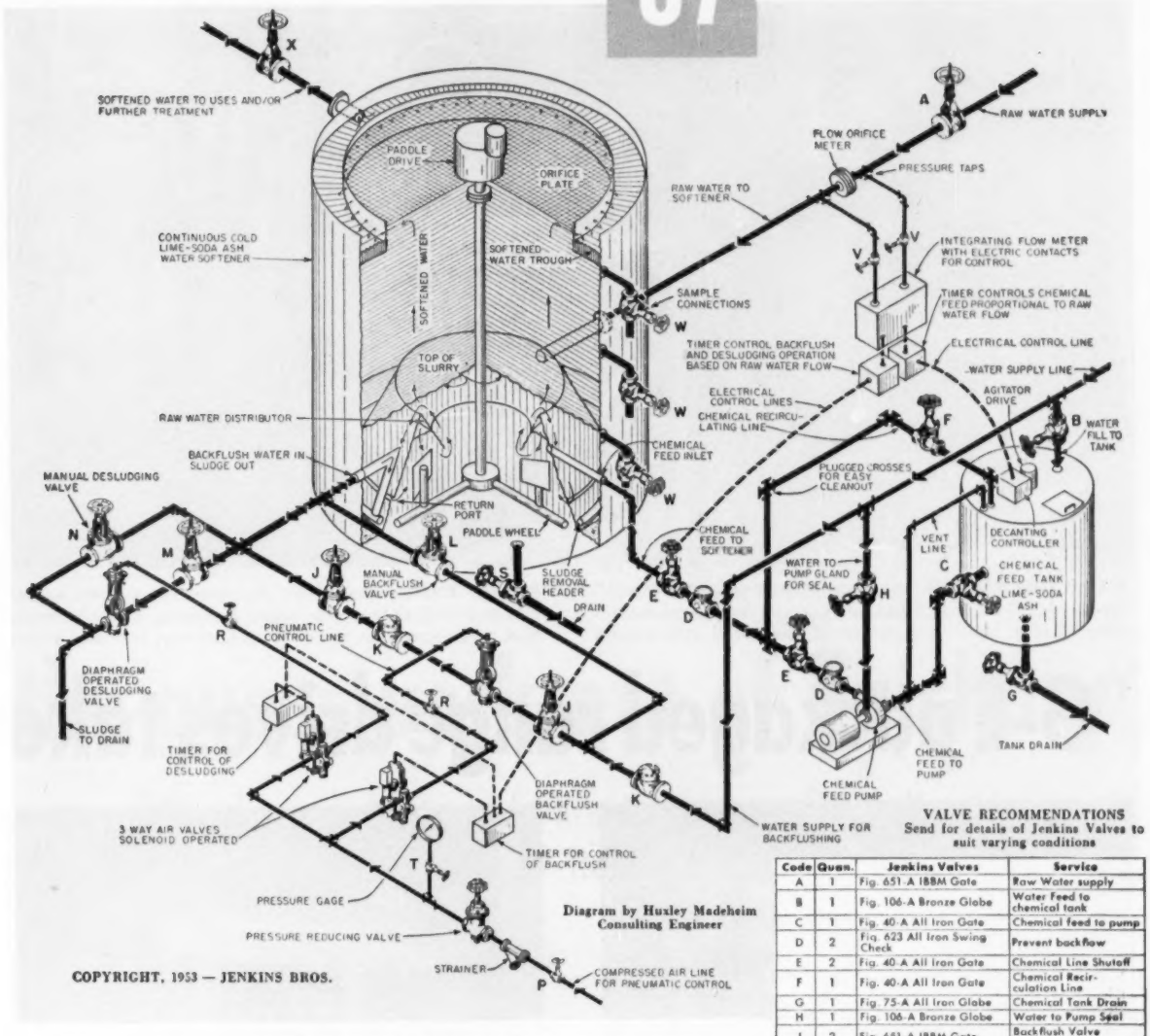


Diagram by Huxley Madeheim Consulting Engineer

COPYRIGHT, 1953 — JENKINS BROS.

VALVE RECOMMENDATIONS
Send for details of Jenkins Valves to suit varying conditions

Code	Quan.	Jenkins Valves	Service
A	1	Fig. 651-A IBBM Gate	Raw Water supply
B	1	Fig. 106-A Bronze Globe	Water Feed to chemical tank
C	1	Fig. 40-A All Iron Gate	Chemical feed to pump
D	2	Fig. 623 All Iron Swing Check	Prevent backflow
E	2	Fig. 40-A All Iron Gate	Chemical Line Shutoff
F	1	Fig. 40-A All Iron Gate	Chemical Recirculation Line
G	1	Fig. 75-A All Iron Globe	Chemical Tank Drain
H	1	Fig. 106-A Bronze Globe	Water to Pump Seal
J	2	Fig. 651-A IBBM Gate	Backflush Valve Shutoff
K	2	Fig. 624 IBBM Swing Check	Prevent Backflow
L	1	Fig. 142 IBBM Globe	Manual Backflush Valve
M	1	Fig. 651-A IBBM Gate	Desludge Valve Shutoff
N	1	Fig. 142 IBBM Globe	Manual Desludge Control
P	1	Fig. 106-A Bronze Globe	Compressed Air Line Shutoff
R	2	Fig. 106-A Bronze Globe	Pneumatic Control Line Shutoffs
S	1	Fig. 100 All Iron Gate	Softener Tank Drain
T	1	Fig. 741-G Bronze Needle	Pressure Gage Control
V	2	Fig. 741-G Bronze Needle	Flowmeter Pressure Tap Shutoffs
W	3	Fig. 75-A All Iron Globe	Sample Takeoffs

How to plan a CONTINUOUS COLD LIME-SODA ASH WATER SOFTENING SYSTEM

A common method of softening water by removing calcium and magnesium salts, the cold lime-soda ash process is now employed in virtually every major industry. Depending on plant requirements, it can be installed to operate as a batch-process or continuous-process system.

The continuous-process system is illustrated. As raw water combines with a lime-soda ash solution pumped from the chemical feed system, microscopic particles form and mix with coagulated precipitate in the tank.

In constant circulation, the mixture of water and precipitate first rises through the mixing zone, then flows down around the outside cone to reenter the mixing zone via a return port. A small portion rises through the slurry to the top and enters the softened water trough for further treatment or use. Larger, denser masses of precipitate drop down to be removed by the desludging system, which automatically loosens up the compacted sludge and drains it off for a predetermined length of time.

Consultation with accredited piping engineers and contractors is recommended when planning any major piping installation.

To save time, to simplify planning, to get all the advantages of Jenkins specialized valve engineering experience, select all the valves you need from the complete Jenkins line. It's your best assurance of lowest cost in the long run. Jenkins Bros., 100 Park Ave., New York 17.

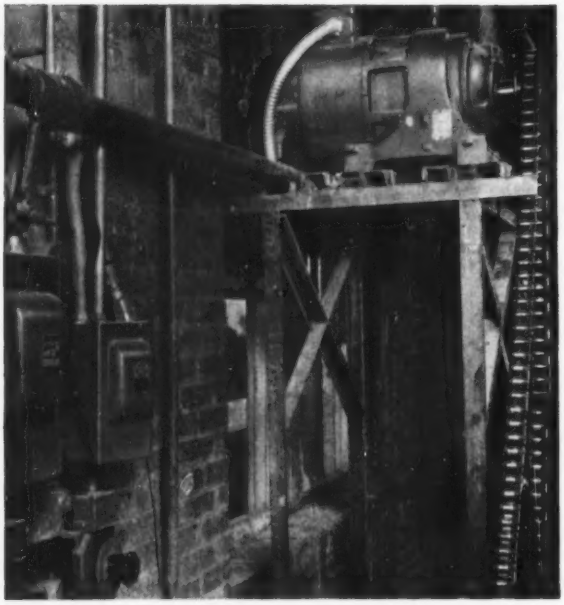
Complete description and enlarged diagram of this layout free on request. Includes additional detailed information. Simply ask for Piping Layout No. 67.

JENKINS
LOOK FOR THE DIAMOND MARK
VALVES
SINCE 1864
Jenkins Bros

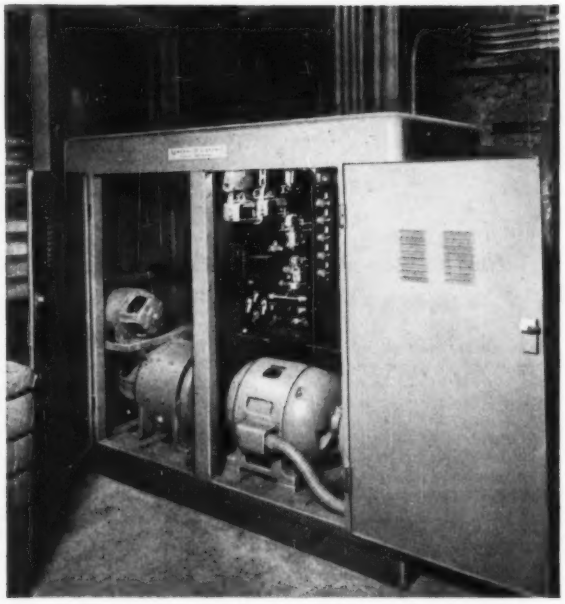
ENGINEERING REPORTS:

MAN-HOURS REDUCED—One operator co-ordinates over-all speed of No. 1 finishing range simply by turning speed-control rheostat. For closer adjustment of the speed and tension between Tommy Dodd, No. 2 dry cans, and padder, a rheostat is provided for each motor. Resulting accuracy means that range operation will be simple, speedy, and economical.

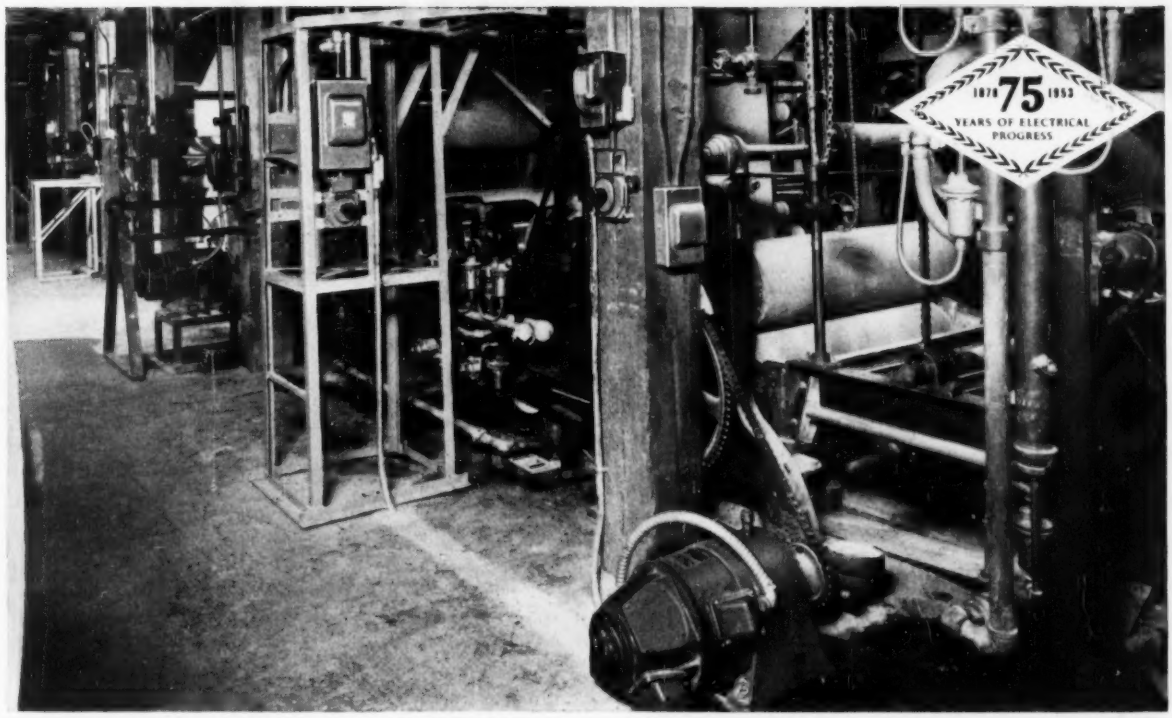
"G-E packaged range drives take



CLOSE TENSION CONTROL is provided by this powerful G-E gear-motor which drives the Tommy Dodd for the No. 2 finishing range. Finer quality dyeing is thus made possible.



PRODUCTION AREA SPACE SAVED—Compact design of 50-hp G-E packaged power unit made locating it away from the work area easy. Unit is delivered ready to operate.



COMPACT, UNIFIED LAYOUT of the remainder of the No. 1 finishing range is shown here. By installing a G-E packaged drive, the production area could be planned more efficiently, and working conditions improved. Compensating gate rheostats throughout the range automatically keep fabric tension, speed more accurate, respond quickly for smooth co-ordination.

the guesswork out of finishing"

"They're our best modernization expenditure," adds A. J. Leaderman, President of Rockland Bleach and Dye Works

"Our experience with our two new General Electric packaged range drives has been gratifying . . . they have taken the guesswork out of range work," reports A. J. Leaderman, President of the Rockland Bleach and Dye Works in Baltimore. "We feel that they have been our best expenditure out of more than a half-million dollars we have spent on modernization." Here's why:

Installation costs were low

All of the G-E equipment in the adjustable-voltage d-c drive systems were supplied in easy-to-handle "packages." These units were standardized—mass-produced—to lower costs and simplify installation. All were factory-wired and tested, delivered ready for operation. The flexibility of this equipment permits Rockland Bleach & Dye to make plant-layout changes easily and quickly.

Operations prove highly efficient

Any desired operating or jogging speed within a wide speed range can be set on the two new G-E packaged drives. Over-all speeds are easily controlled from a central station. Compensating gates provide close co-ordination of all motors. The drives accelerate and decelerate smoothly and quickly. Finishing operations are more flexible—individual units can be disconnected from either range.

G-E application engineers co-operated closely with Rockland engineers to unify these two drive systems. If you plan to install a new range, or extend or modernize an existing one, they can help you the same way. Ask your local G-E Apparatus Sales Office about it. General Electric Company, Schenectady 5, N. Y.

654-30

Engineered Electrical Systems for Textile Mills

GENERAL ELECTRIC

FIRST AID IS COMING!

Keep A Spot Reserved For Your "NEW MILL TOOL"...

TEXTILE WORLD'S BUYERS' GUIDE and REFERENCE DATA Issue

Every subscriber to TEXTILE WORLD will receive this EXTRA issue beginning this year!

Include the Buyers' Guide along with tools you consider "first aids" in solving your daily mill problems. Have it instantly available to help you find the answers to maintained mill performance and efficient buying.

IF YOUR PROBLEM IS A PRODUCTION ONE . . . you will find many pages in the REFERENCE DATA section devoted to charts, tables, and formulas, all designed to help you in the mill. They will contain information on properties of both natural and synthetic fibers. Production information on carding, spinning, throwing, knitting, weaving, dyeing, and finishing will also be included. This section will be the FINEST composite of mill reference material ever published in a magazine.

IF BUYING IS YOUR PROBLEM . . . you will value the Classified List which will carry thousands of product headings for machinery, equipment, chemicals, dyestuffs, and other supplies, together with the names and addresses of manufacturers and the trade names of such items. The entire editorial facilities of TEXTILE WORLD have been utilized to make these listings as complete, easy-to-use, and truly representative of a changing industry as possible. Companies supplying services to the industry – factoring, engineering, commission work, etc. – will also be included if advertising in this issue.

In addition, many companies will supplement product listings with detailed information about their products in their advertising space. Such information will be page referenced in the Classified List, thereby giving you a complete story on a product or service.

Make the Buyers' Guide your . . .

CONSTANT COMPANION

beginning in Mid-November.

TEXTILE WORLD

330 West 42nd St., New York 36, N. Y.

If you are a mill executive not already subscribing and would like to receive a copy of this great reference issue (plus all the other twelve issues) send $2.00 now for a one-year subscription. If you want to save money, send $4.00 for three years, 39 issues. Be sure to tell us the name of your mill, its address, and your title.

assures you automatic blending within 1% accuracy . . .

If you are blending two or more fibers, you owe it to yourself to investigate the possibilities of a Proctor system designed and arranged to suit your individual mill requirements.

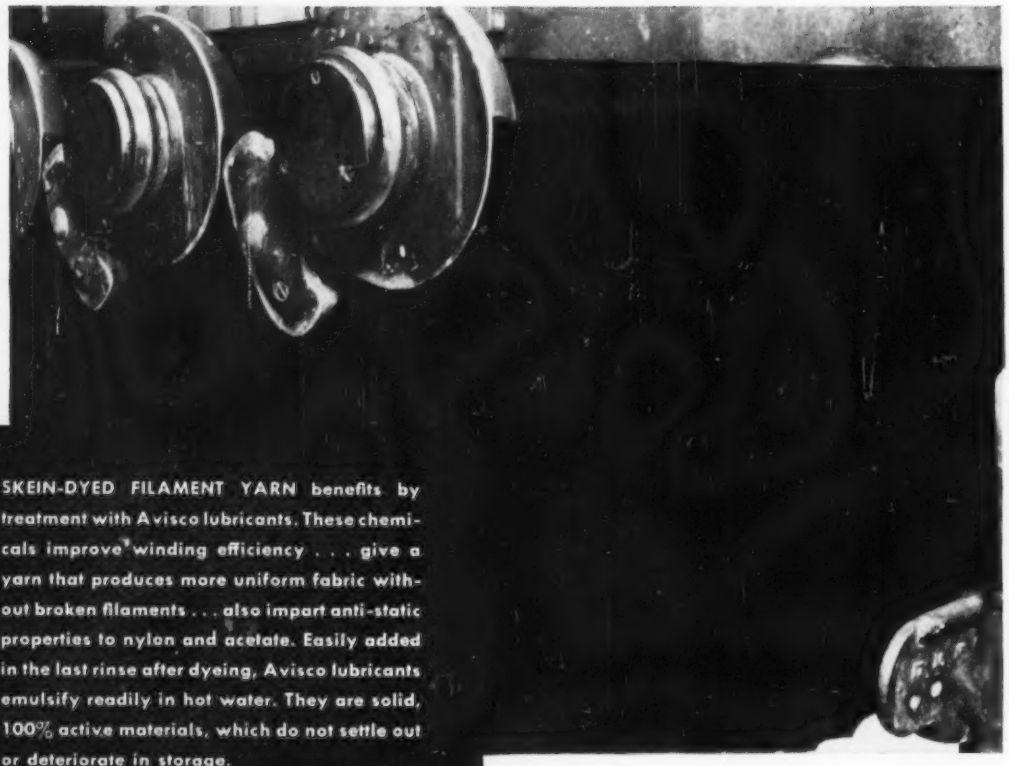
Why? Because Proctor engineers *know* that yarn uniformity starts with your blend . . . they know, too, how to arrange a system to accomplish your blending automatically within 1% accuracy.

There are Proctor systems in operation handling anywhere from a few pounds up to many hundred pounds per hour. In each installation fibers are being mixed thoroughly, accurately and automatically. In many mills variance in the blend is being held to less than 1%. This means that the last yarn made from the blend is exactly the same as the first.

Thousands and thousands of pounds of stock are passing through Proctor systems every day—with accuracy being reflected in improved yarn uniformity. When can we discuss your requirements?

Much Proctor drying equipment and textile machinery is covered in full or in part by patents and patents pending.

PROCTOR & SCHWARTZ, INC.
710 TABOR ROAD PHILADELPHIA 20, PA.



SKEIN-DYED FILAMENT YARN benefits by treatment with Avisco lubricants. These chemicals improve winding efficiency . . . give a yarn that produces more uniform fabric without broken filaments . . . also impart anti-static properties to nylon and acetate. Easily added in the last rinse after dyeing, Avisco lubricants emulsify readily in hot water. They are solid, 100% active materials, which do not settle out or deteriorate in storage.

For better knitting of dyed yarns use

AVISCO textile chemicals

Your yarn is as good as its surface. Avisco textile chemicals will give it the best surface treatment, for these versatile materials lubricate, prevent static, and soften—all at the same time. Furthermore, they're outstandingly stable; they won't discolor, turn rancid or wick out.

The varied types of Avisco chemicals are applicable to cotton, nylon, rayon, acetate, polyester, acrylic and other fibers, both natural and man-made . . . and for processing fiber yarn and fabric. Avisco specialists will be glad to recommend materials and methods of use for your specific problems. Write to Textile Chemicals Division, P. O. Box 455, Marcus Hook, Pa.; or Textile Chemicals Sales, 1617 Pennsylvania Blvd., Philadelphia, Pa.

Send for your copy of this new booklet—
"Avisco Textile Chemicals"

Avisco textile chemicals were developed in cooperation with and are manufactured by the Atlas Powder Company, Wilmington, Delaware

Avisco®

AMERICAN VISCOSE CORPORATION

America's first producer of man-made fibers

For more information, write direct or use Reader Service post card.

choose the stainless that does the best job

No one stainless steel meets every set of service conditions. And you should not pay extra for special properties you don't need. You can economize too, by selecting alloys especially designed for your fabricating processes.

Crucible produces around thirty standard alloys and many other special types of REZISTAL stainless steel. To help you choose the proper grade, our field representatives are prepared to bring you the latest and most complete metallurgical and fabrication data available on the application of stainless steel. And our plate, sheet, strip, bar, wire and tube mills are equipped with the most completely automatic controls for rolling, annealing, heat treating, finishing and polishing to assure you of unvarying quality in every piece of Crucible REZISTAL.

For assistance in solving application problems and the finest quality in stainless steels, call Crucible.

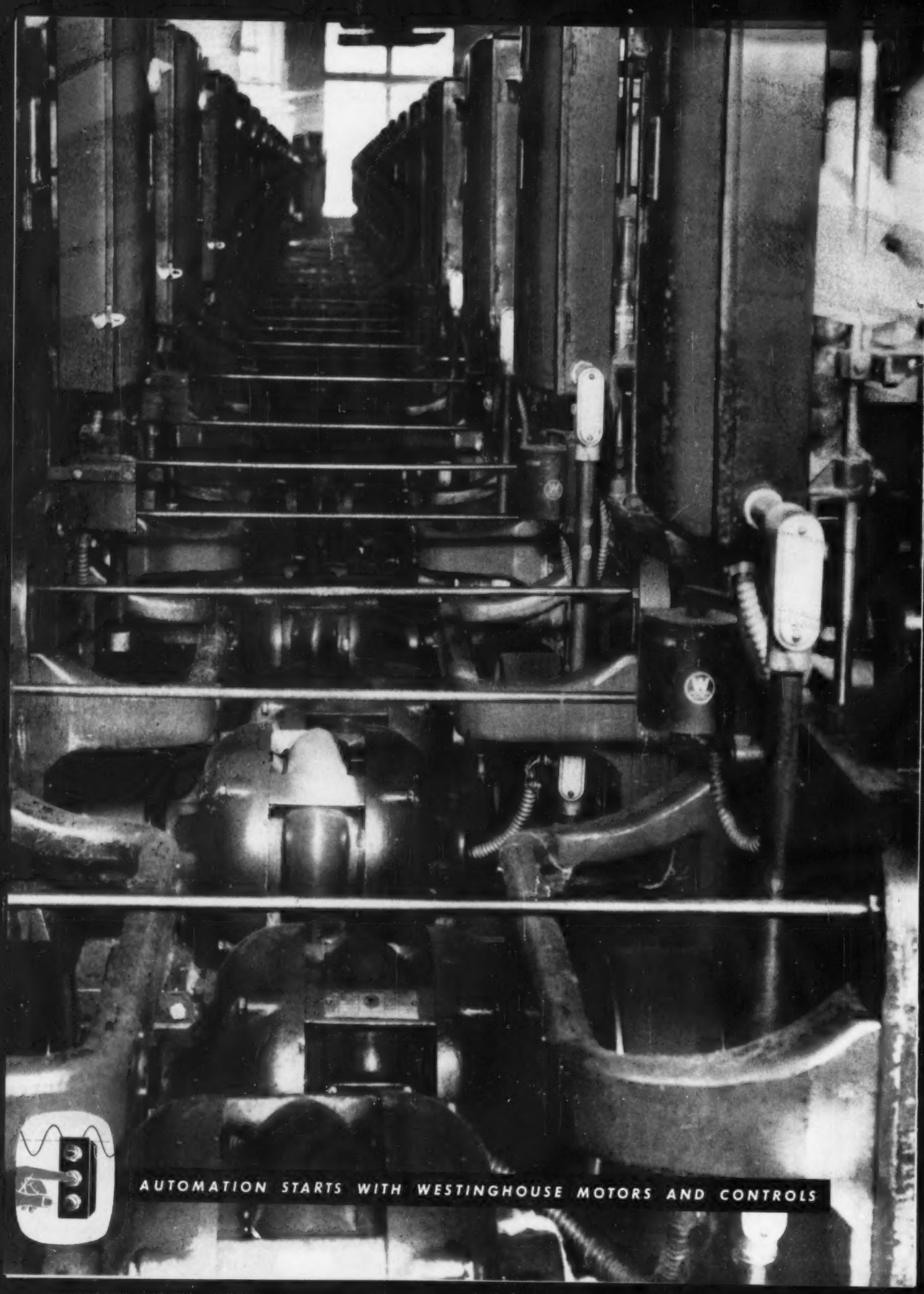
CRUCIBLE first name in special purpose steels

53 years of Fine steelmaking **STAINLESS STEEL**

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

For more information, write direct or use Reader Service post card.


AUTOMATION STARTS WITH WESTINGHOUSE MOTORS AND CONTROLS

How to conserve floor space with *Life-Line* motors and controls

As textile production becomes increasingly automatic, areas allowed for maintenance often eat heavily into available floor space. Textile plants today realize the value of putting dependable, maintenance-free equipment in their automatic production picture. It means conserved floor space.

With Life-Line* motors and controls—equipment requiring practically no attention—aisles and work areas previously needed for servicing can be used more efficiently.

Life-Line design and construction deliver motors that can be put to work and forgotten. Bearings are PRE-LUBRICATED and FACTORY-SEALED. They operate year after year without attention. Motor windings are specially insulated to guard against effects of moisture, lint and chemicals.

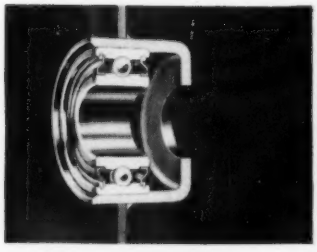
*T. M.

The rugged frame protects motor parts and withstands heavy shocks that might ordinarily mean motor repair or replacement.

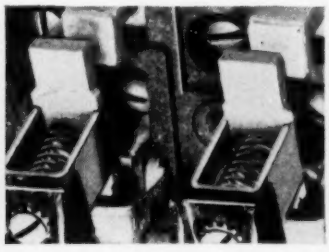
Life-Line controls, too, erase maintenance needs. Silver-to-silver contacts never need filing or dressing. De-ion® arc quenchers snuff out harmful arcs that whittle away at contact life. Kickout spring assures positive operations. These and many other Westinghouse control features provide protective and maintenance-free service.

Facts for filing—Contact your local Westinghouse representative today and ask him for your copy of the booklet: *Motors and Controls for the Textile Industry,* B-5422; or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

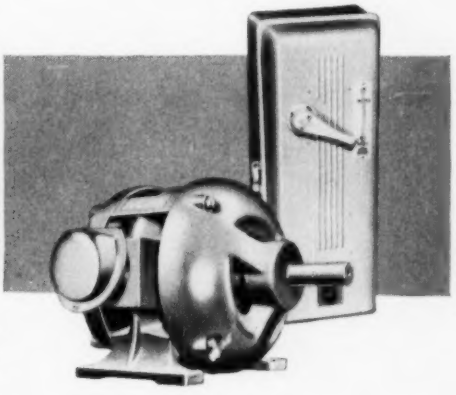
J-21757



Exclusive Life-Line motor bearing has proper lubricant SEALED in. Factory SEALING locks out harmful dust and dirt... does away with bothersome maintenance schedules.



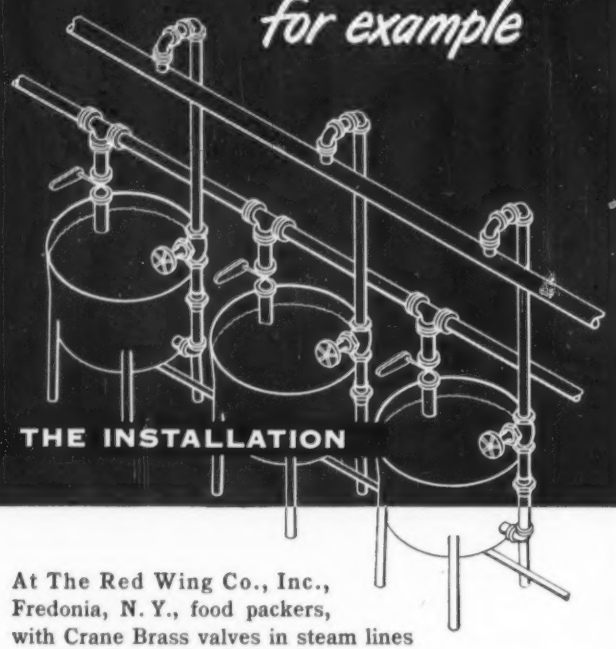
Silver contacts are used on Life-Line controls. This ideal contact material retains its high conductivity even when oxidized. Never requires filing, dressing or cleaning.



YOU CAN BE SURE...IF IT'S

Westinghouse

How Better Quality Valves Pay Off ...on Steam Throttling, for example



THE INSTALLATION

At The Red Wing Co., Inc., Fredonia, N. Y., food packers, with Crane Brass valves in steam lines to juice heaters and cooking kettles.

VALVE SERVICE RATINGS

SUITABILITY:	None better for throttling
MAINTENANCE COST:	No expense here
SERVICE LIFE:	No sign of wearing out after 4 years
OPERATING RESULTS:	Precise control of steam to Cookers
PRICE:	Bigger value than any other valve used
AVAILABILITY:	Regular Crane Catalog Item - No. 212P

THE CASE HISTORY

At least once a week there was valve trouble in the cooking room. Leaky valves . . . disc and seat cut out . . . steam to kettles out of control.

New valves made little difference; none could stand the severe steam throttling. Not until Crane plug-type disc valves were installed.

Immediately the valve trouble stopped as did the cooking interruptions. Not even the plant operator believed it possible. In use now more than 4 years with no maintenance cost, the Crane No. 212P valves are still in like-new condition. They show no erosion, no leakage; and they operate freely.

THE VALVE

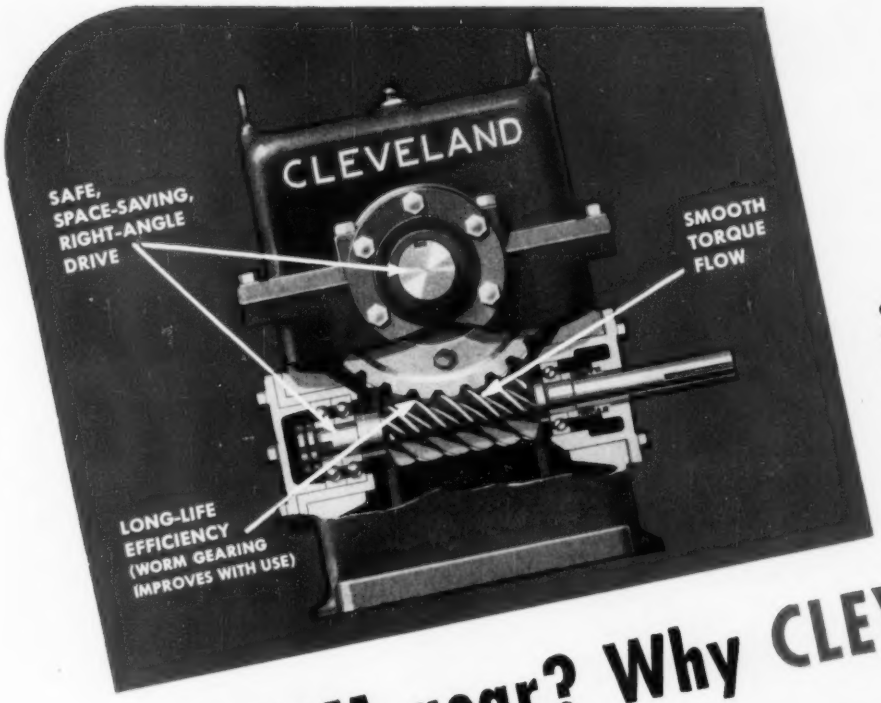
Designed expressly for severe throttling service, these Crane brass valves have plug type disc and seat of Crane Nitri-Hard stainless steel. Seating surfaces are practically impregnable to damage by cutting, erosion, etc. Disc taper permits close flow regulation. For any kind of throttling look into these valves for 150, 200, and 300-pound steam services. Your Crane Catalog or your Crane Representative will give you all facts.

THE BETTER QUALITY...BIGGER VALUE LINE...IN BRASS, STEEL, IRON

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING



Cutaway shows compact interior design and construction of a typical Cleveland worm gear speed reducer, used in thousands of plants. Clevelands save floor space—are simple to install and maintain. A minimum number of moving parts practically eliminates trouble.

Why WORM gear? Why CLEVELAND?

HERE are some of the inside reasons why Cleveland worm gear speed reducers are specified by many of the leading builders and users of industrial machinery.

• **SAFE, SPACE-SAVING, RIGHT-ANGLE DRIVE**—Clevelands are compact, provide a wide range of reduction speeds. Worm and gear enclosed in sealed housing replace dangerous open gearing, belts and pulleys. Safety always for machine operators and lube men! Gearing runs in oil bath, insures positive lubrication, eliminates oil cans and grease paddles.

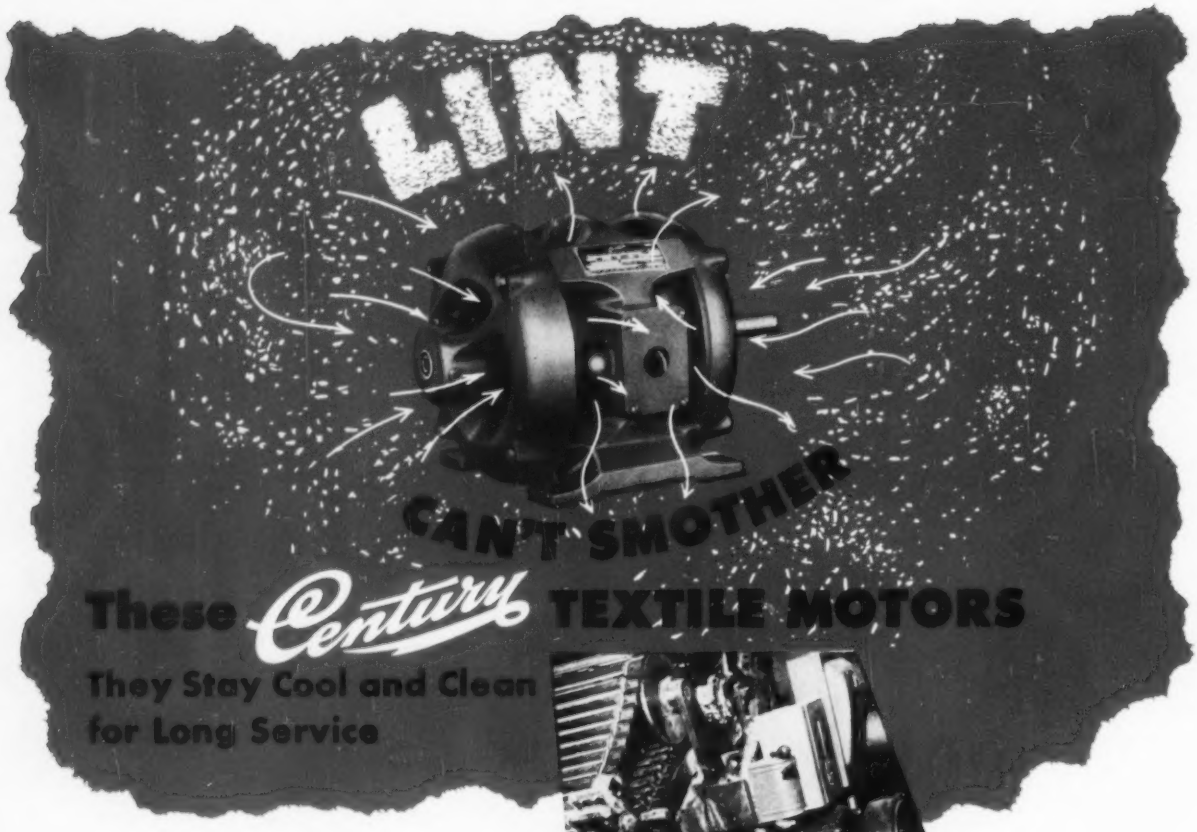
• **SMOOTH TORQUE FLOW**—By virtue of the sliding action of worm on gear, a Cleveland transmits power uniformly and smoothly. Constant angular velocity assures positive control of work on driven machine.

• **LONG-LIFE EFFICIENCY**—Experience demonstrates that Cleveland case-hardened worms and nickel-bronze gears actually improve with use. Even operating under continued, severe overloads, danger of sudden failure is remote. Thousands of Clevelands operate for the life of driven machines.

Get the complete Cleveland story by writing for new Catalog 400 today. The Cleveland Worm & Gear Company, 3268 East 80th Street, Cleveland 4, Ohio.

Affiliate: The Farval Corporation, Centralized Systems of Lubrication. In Canada: Peacock Brothers Limited.

 For more information, write direct or use Reader Service post card.



These Century TEXTILE MOTORS

They Stay Cool and Clean for Long Service

A strong, steady blast of air is constantly circulated through the wide, smooth air passages in Century Textile Motors. Cooling air circulates over bearings and around the windings maintaining temperature within nameplate rating. You can actually watch lint and textile dust passing freely through the frame.

For all your motor needs, Century builds a complete line of electric motors in sizes from 1/8 to 400 horsepower . . . in types that include dripproof, splashproof, totally enclosed fan-cooled and explosion proof. Also, Century Selective Speed Drives are available for many coordinated mill drives.

Anywhere in your mill, bleachery or finishing plant . . . there's a Century motor designed to do the job best.

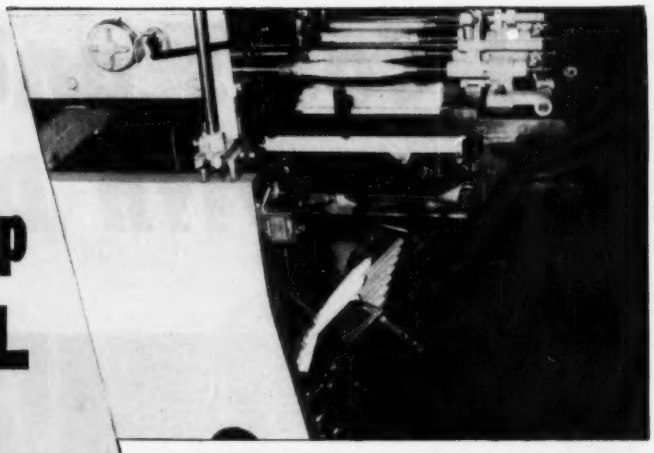
Century C MOTORS

CENTURY ELECTRIC COMPANY
1806 Pine Street, St. Louis 3, Missouri
Offices and Stock Stock Points in Principal Cities

754

Foster-Muschamp AUTOFILL WINDER

Now Automatically Loads Bobbins on Pinboards!



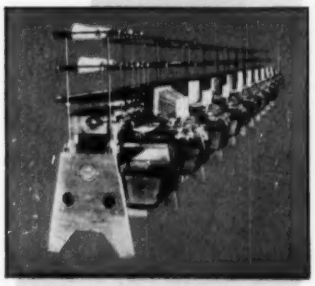
Showing how bobbins are automatically deposited on pinboards

Showing pinboard box (which holds up to 6 empty pinboards), partially loaded pinboard and fully loaded pinboard

Pictured here is the most recent automatic action with which this machine has been endowed. After automatically winding filling bobbins with a precise lay of yarn (using no builder wheels), it now, by means of a PINBOARDING ATTACHMENT, automatically deposits the bobbins on pinboards — ready for storage, or transfer to the weave room!

Here are five ways you save cost and better your operations by using this improved machine:

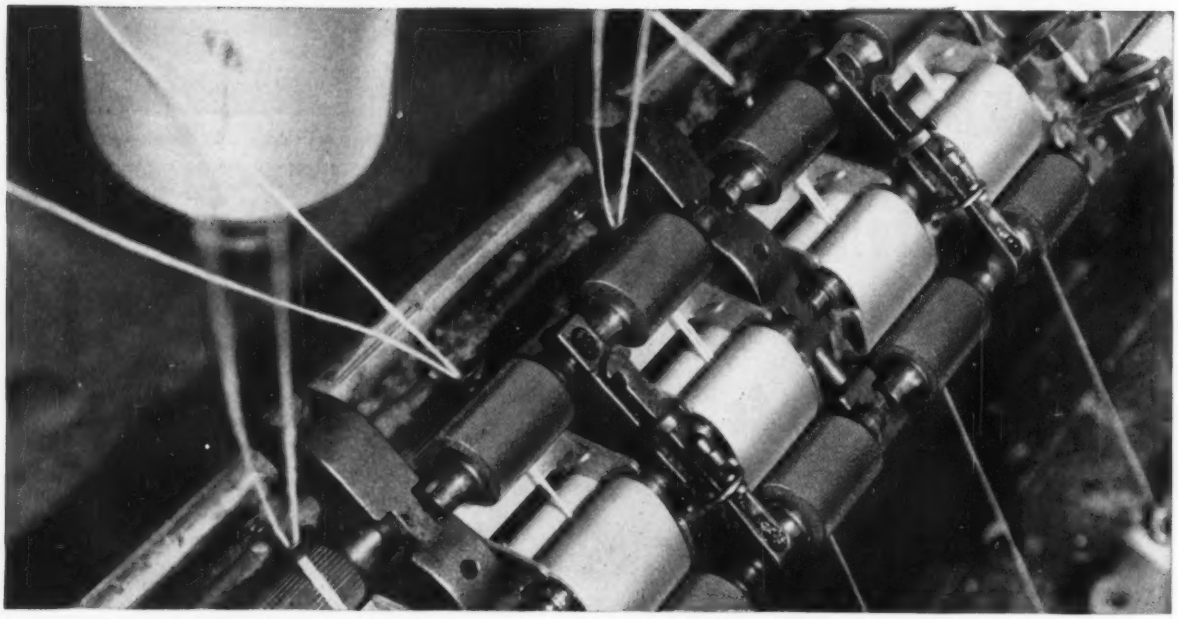
1. No more cut or bruised filling yarns, due to one quill falling onto another.
2. Elimination of dirty filling caused by handling and rubbing on dirty surfaces.
3. Lower cost of moving bobbins from your Quilling Department to Weave Room.
4. Sorted colors on individual boards ready for colored yarn weaving — no hand sorting.
5. Efficient storage of full bobbins, protected against dirt and damage.



Learn about *all* the advantages of
The Foster-Muschamp Autofill Winder.
Write for Bulletin M-1.

FOSTER MACHINE COMPANY
WESTFIELD, MASS., U. S. A.
Southern Office: Johnston Bldg., Charlotte, N. C.

Cut Costs and Increase with DAYCO Cots



Ibrocol in New Dayco Cots Successfully Combats Eyebrowing

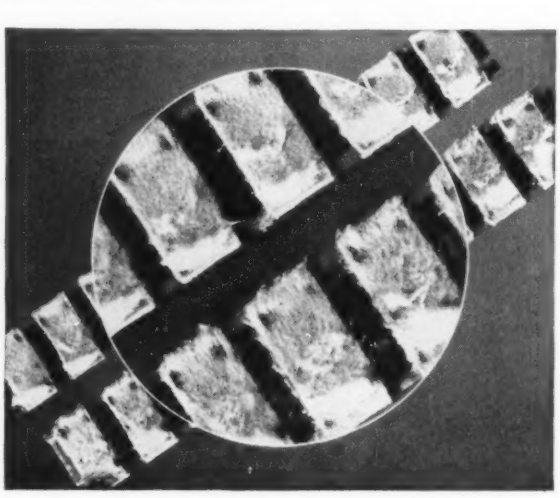
The new Dayco Cot EW-465, containing the amazing ingredient, Ibrocol, is today a must in many mills because of its remarkable success in combating eyebrowing. This increased efficiency of Dayco cots, now makes it possible to draft better quality yarn at lower cost.

Not only does this new Dayco Cot help solve eyebrowing problems, but it also requires fewer cleanings of the clearer boards and runs longer between buffings than most cots.

Ibrocol is the reason for this unique performance. Its chemical and mechanical action gives the cot a surface that maintains just the right coefficient of friction at all times.

All Dayco Cots, including the new EW-465, are unaffected by moisture or changes in temperature. Neither do they groove, pit, or develop flat spots. As a result of these and other features, Daycos give you fewer ends down, less lap ups, better drafting on all types of frames using either natural or synthetic fibers.

For drafting quality yarn at rock bottom cot costs, you just can't beat Daycos. Get the complete story today from your Dayco Representative.



The top board was used with the new Dayco EW-465 Cot which removes only short staple fibers, packing them well back away from possible pickup by the end. Note, there is less waste as well as less eyebrowing.

For more information, write direct or use Reader Service post card.

Yarn Quality and Long Draft Aprons

Get Up to 10% More Uniform Yarn With Dayco Long Draft Aprons

Because Dayco Long Draft Aprons are precisely engineered and manufactured to close tolerances, their drafting ability remains constant throughout their long life. As a result most mills generally get up to 10% more uniform yarn.

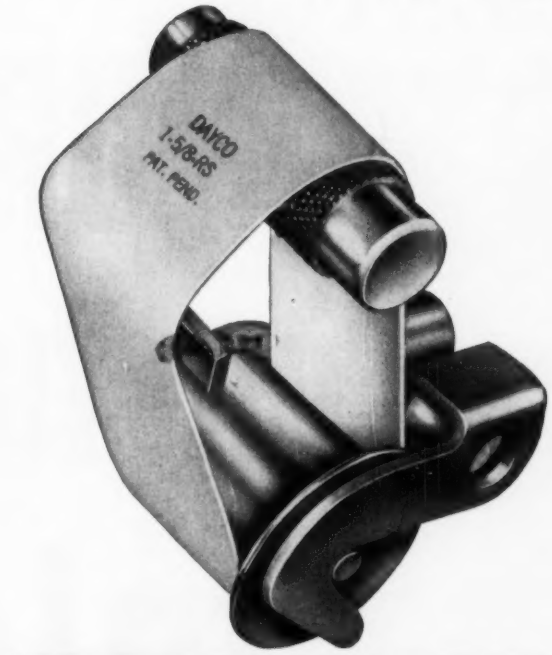
Daycos are built for rugged performance. A neutral axis of specially processed cord gives them great strength with just the right amount of stiffness to prevent compressing, wrinkling or distorting. Yet they are completely flexible for long life without cracking or breaking.

There's no Monday morning delay with Daycos. Since they don't stretch or take a permanent set, they start drafting the instant you start the frame.

Whether you use the single or double apron system you'll find that Dayco equipped frames will save you time and money . . . and give you more uniform yarn besides. Ask your Dayco Representative for complete details.

Enjoy these Dayco Apron features—More uniform yarn. Fast, positive morning starts. No moisture or temperature troubles. Not damaged by hard ends. Won't crack, curl, or pick up lint. Drafting ability stays constant. Lower costs. Non-directional. Longer service life.

Whether you use the single apron or two apron system, Daycos can do the job expertly. They have just the right surface for carrying the roving without damage.



©D.R. 1953

Dayton Rubber

Since 1905

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

Dayton Rubber Company, Textile Division, Woodside Bldg., Greenville, S. C.

 For more information, write direct or use Reader Service post card.

here's why... MORE and MORE mills are turning to micarta®...

because of these qualities . . .

Saves Weight, weighs half as much as aluminum.
Resists Compression, pound for pound greater than steel.
Resists Impact, absorbs and withstands severe shock.
Withstands Vibration, cushions repeated shock without effect.
Insulates like mica but greater flexibility.
Resists Corrosion, not affected by acids, oils, fumes.
Resists Heat and Cold from –112°F to 212°F.
Resists Moisture, in fact, water is its best lubricant.
Wears Slowly, Evenly, in many cases more slowly than metal.
Reduces Noise, absorbs vibrations, deadens noise.
Fabricates Easily, machined or punched with ordinary tools.

because of these flexibilities . . .

Laminated MICARTA includes standard structural shapes: plates, sheets, angles, channels, rods, tubes and zees. Occasionally this class includes simple molded shapes.

Molded MICARTA is the choice for complicated shapes, large production quantities of either simple or complicated shapes, or for certain properties better obtainable in form molding.

because MICARTA is basic

MICARTA is a tough and resilient basic material that welcomes comparison with other basic materials. This versatile plastic outlasts wood and metal in many punishing applications. Investigate MICARTA and you'll find it the economical solution to tough production problems.

YOU CAN BE SURE... IF IT'S
Westinghouse
micarta

for more information on how MICARTA can help solve your production problems, and give you advantages no metal can give you, please fill out the coupon below. A MICARTA representative will then call on you personally.

mail it today!

Westinghouse Electric Corporation
MICARTA Division, Trafford, Pa.
Attention: L. A. Pedley

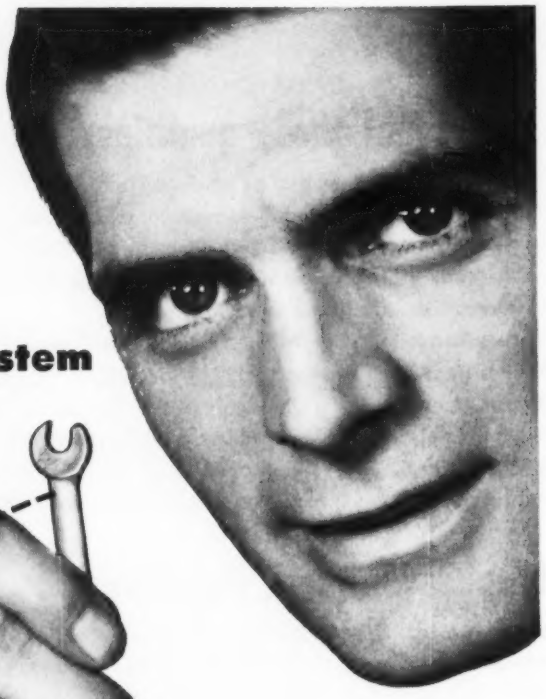
Sir: (Please Check One)

☐ Please have your representative call
☐ Please send me the complete facts on MICARTA

Name_____ Company_____
Address_____
City_____ Zone____ State_____

J-06501-A

Here's the only tool you need to exactly calibrate the control system of this instrument!



Only one simple adjustment with a standard 1/4 in. wrench exactly calibrates the control system in a Bristol Series 500 Air-Operated Control System.

That's because the control units and parts are so accurately designed and the manufacturing tolerances so closely controlled that the control system can be completely disassembled and after being reassembled, even with replacement parts, can be *exactly calibrated by only one simple adjustment.*

No wonder a Bristol Series 500 Controller is the simplest and easiest control system on the market to service.

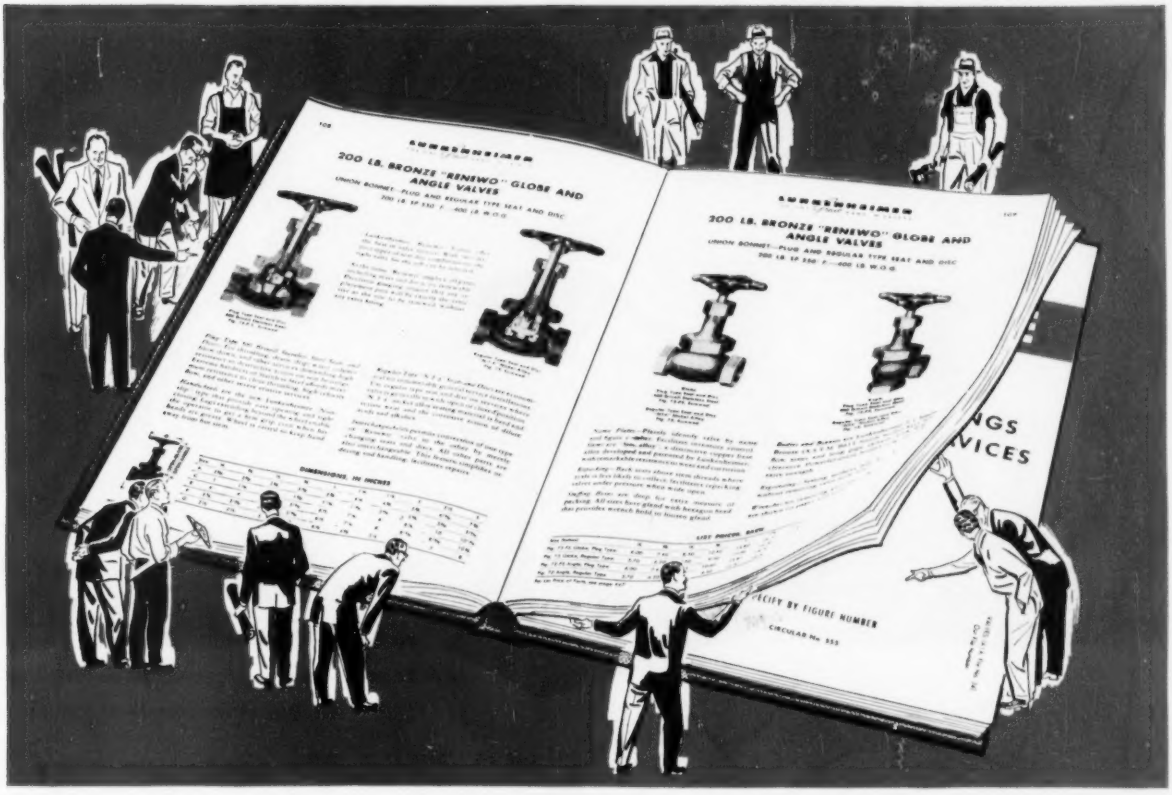
Write for Bulletin A120 for full details. THE BRISTOL COMPANY, 103 Bristol Road, Waterbury 20, Conn.

Strip and round chart Electronic Dynamaster Air-Operated Controllers are also available.

BRISTOL *The dependable Guidepost of Industry*

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

New 500-Page LUNKENHEIMER Catalog



Most Complete Valve Reference Work in Print!

The unique three-color, quick-reference Guide section of this new catalog makes it actually two volumes in one! Just refer to the Guide, where valves are grouped by pressure classes for easy comparison . . . the number of the page which includes complete details is printed under each illustration.

A handy four-way index is also included for your convenience. All the thousands of products in the complete Lunkenheimer line are described fully — with sectional and exterior views, sizes, dimensions, parts, prices, recommended uses, and performance. In addition, you'll find more than 100 pages of engineering data at your fingertips.

The new Lunkenheimer Catalog is so important that it is being distributed personally. When your copy is delivered, be sure to go over it briefly with the representative who brings it to you. He can show you how to take full advantage of all the features which save you time and trouble in ordering.

The Lunkenheimer Company
Box 360R
Cincinnati 14, Ohio

LUNKENHEIMER
QUALITY

BRONZE • IRON • STEEL

LUNKENHEIMER®

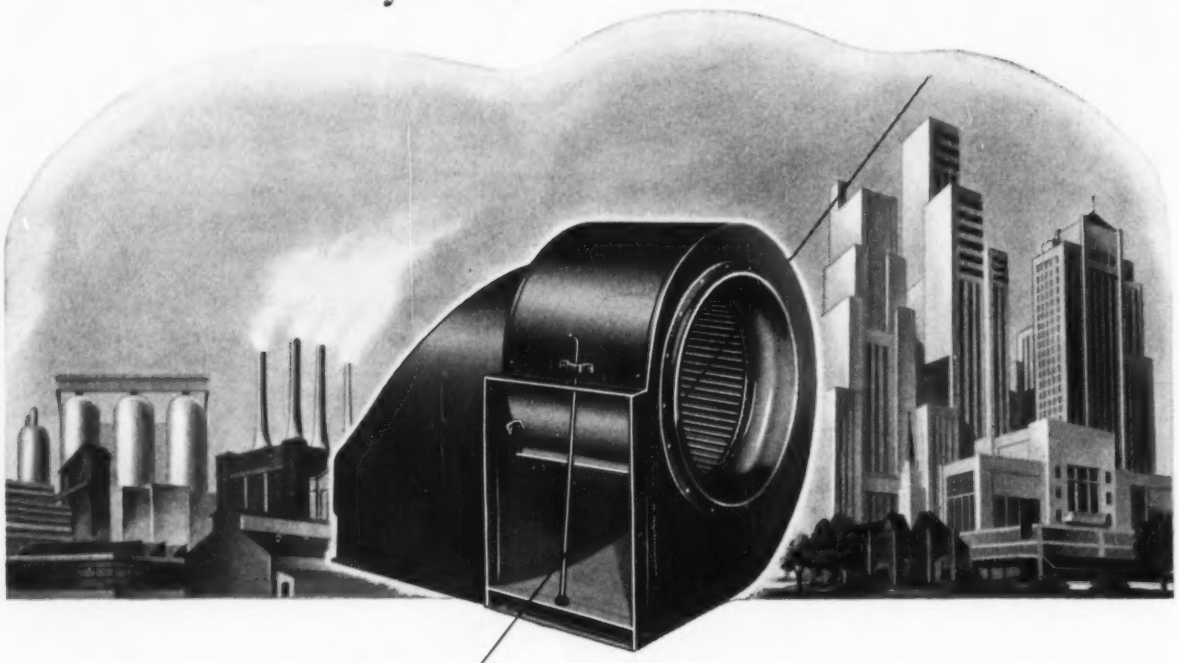
THE ONE *Great* NAME IN VALVES

L-353-12

 For more information, write direct or use Reader Service post card.

AMERICAN BLOWER

Utility Sets



The heart of an American Blower Utility Set is this dynamically balanced Sirocco wheel which provides large volumetric capacities at low peripheral speeds.

Need air in your business?

Want a "work horse" that has proved to be a good investment in hundreds of industries?

Then, put these time-proven, quality-built American Blower Utility Sets to work. They are unsurpassed for general ventilation where duct systems are required.

There's an American Blower product for every air-handling need — for process work, for pressure duties, for ventilating, heating, cooling, air conditioning.

Just call one of our branch offices for data.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO

Division of American Radiator & Standard Sanitary corporation

AMERICAN BLOWER

YOUR BEST BUY IN AIR HANDLING EQUIPMENT

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS

For more information, write direct or use Reader Service post card.

XYNO FINISH 9909

Sewing's a snap when urea- and melamine-treated fabrics are processed with **XYNO FINISH 9909.** Extensive use has proven the superior effectiveness of this softener in almost every respect.

XYNO FINISH 9909 is extremely bath-compatible with both anionic and cationic finishing materials, as well as with urea and melamine. It offers strong resistance to yellowing at higher temperatures, does not reduce the light-fast properties of normally susceptible colors, has an excellent plasticizing action and does not inhibit resin curing.

Nothing will convince you of the superiority of **XYNO FINISH 9909** like a test sample. We will gladly send one upon request and without obligation, together with complete data. *Write today.*

ONYX

OIL & CHEMICAL COMPANY

TEXTILE DIVISION

WARREN & MORRIS STS., JERSEY CITY 2, N. J.

CHICAGO • BOSTON • CHARLOTTE • ATLANTA

For Export: ONYX International, Jersey City 2, N. J.

NATURAL STRENGTH . . . The strength of Textile Spring-Beard Needles is the natural result of quality control. A special steel formula, superior tempering, rigid scientific and electronic controls assure the strength combined with flexibility required in today's high-speed knitting operations.

Strength is another reason for using Textile Spring-Beard Needles. Try them . . . see the more even stitches and better fabrics you get . . . at lower production costs.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full-Fashioned Knitting

For Tricot Knitting

ARROW Latch Needles

For more information, write direct or use Reader Service post card.

TEXTILE WORLD
July, 1953 - Vol. 103 - No. 7

A SUGGESTION SYSTEM That Works

▶ This suggestion system has been directly responsible for many improvements at Shuford Mills, Hickory, N. C. Highlights: Suggestion boxes are conveniently located—Employees must sign suggestions—Organization is simple — Suggestions are followed up — Superintendents are rewarded — Awards are adequate—Awards are publicized

By **NAN L. BROWN,** Shuford Mills

OUR SUGGESTION SYSTEM has been in effect a little over two years, and we are still receiving an average of about 100 suggestions a month. We have received a total of approximately 2,600 suggestions and have paid out $7,446 in awards to workers and $425 in awards to superintendents. The system covers 1,645 employees in four plants.

When the system was set up we had a few skeptics; but today top management is 100% behind the system, the supervisors actively cooperate, and our workers have come to regard the suggestion system as an integral part of our personnel program. Our suggestion system is an important means of communication between management and workers, and it has been directly responsible for many improvements in our mills.

Easy To Make a Suggestion

Locked suggestion boxes are in convenient places throughout our mills with a supply of suggestion blanks at each box. The only key to the locks is kept by the suggestion committee secretary, and the employees are assured that he is the only one who sees the signed suggestions. With the boxes out in the mills, an employee can submit a suggestion when the idea comes to him on his job, and the box is a constant reminder of the suggestion system.

For our employees, there is only one rule governing suggestions: each suggestion must be signed. We have found that by requiring the employee to sign his suggestion, we accomplish two things: (1) most of the personal-grudge type suggestions are eliminated, and (2) an employee will put more effort into writing his suggestion if he is required to sign it. The employees know that unsigned suggestions will not be considered; so they don't bother to send them in. We have received only about a dozen unsigned suggestions since the system was started.

We sometimes receive signed sug-

And for HOW it works turn to the next page . . .

"After two years,

Let's trace the course of a typical employee suggestion

SHUFORD MILLS, INC.

SUGGESTION BLANK

In making suggestions, care should be taken to define and explain as clearly as possible. Name the article, part number, and operations affected. When applicable to a machine or a part of a machine, please give the machine number and location.

We welcome suggestions that will benefit the Company and its employees, reduce costs, increase production, improve the quality of our product, the method of manufacture, or safety of employees, etc.

IF SKETCH IS REQUIRED, MAKE ON SEPARATE SHEET

What we need is a ball-bearing press roller for the pickers.

(Signed) J. M. Bivens
Nature of employment
Home address
Date

Do not use other side. Use additional she

A SUGGESTION is made by a worker in the picker room on one of the blanks that are kept at the suggestion boxes.

SHUFORD MILLS, INC.

SUGGESTION ACKNOWLEDGEMENT

Suggestion No. 1432
Date

To J. M. Bivens

The Suggestion Department is pleased to acknowledge receipt of your suggestion dated relative to BALL-BEARING PRESS ROLLER FOR PICKERS

We thank you for this suggestion and shall advise you of final action at a later date.

The management hopes to receive further suggestions from time to time.

Joe Golden
Sec., Suggestion Department

ACKNOWLEDGEMENT is made as soon as the suggestion is received by the Secretary of the suggestion system.

Memo to: SAM FLOYD Date

The Suggestion Committee has approved and adopted suggestion No. 1432, a copy of which is enclosed. An award of $100.00 has been paid to the suggestor. The committee has directed that the above be placed in operation as soon as possible.

Joe Golden,
Sec., Suggestion Committee

Tear off and return to:

Joe Golden,
Secretary, Suggestion System

VERIFICATION SLIP

I hereby verify that adopted suggestion No. 1432

☒ has been put into effect
☐ necessary work orders and material requisitions have been placed for same on
Date

(Check one of above)

Signed Sam Floyd
Superintendent

AFTER ADOPTION, the idea earned Mr. Bivens $100. The suggestion is sent to the superintendent concerned for action.

INSTALLED on the picker, the ball-bearing press roll is a decided improvement over the old method.

gestions that are nothing more than gripes; but they are acknowledged, investigated, and answered. By handling gripe suggestions in the same way as bona-fide ideas, we assure the employees of our good intentions and also let them get grievances off their chests by writing them down and receiving an answer.

Organization Is Simple

Our suggestion system is organized as simply as possible. It is headed by a suggestion committee secretary, in our case the personnel director, who collects suggestions at regular intervals, assigns them for investigation, and follows through. He is responsible for the clerical work and procedures of the suggestion committee and the promotion of the suggestion system.

The suggestion committee is composed of the three general superintendents of our manufacturing divisions, a representative of the standards department, and the superintendent of the maintenance department. The committee evaluates each suggestion submitted, decides on the amount of the award, and sees that the adopted suggestion is put into effect as soon as possible.

How Suggestions Are Handled

Processing begins when the suggestions are picked up by the secretary, and he picks them up often enough that no suggestions lie in the boxes for any length of time. The suggestions are assigned a number for identification purposes and are promptly acknowledged with a form letter mailed to the home of the suggestor. This letter thanks the person for submitting the suggestion and advises him that he will receive word of final action at a later date.

The suggestion is then typed on a form exactly as it is written by the suggestor, except that the suggestor's name is omitted; and the form is sent to the superintendent of the mill where the suggestion came from. On the back of this form, the superintendent answers a series of questions after he investigates the suggestion: whether or not he thinks the suggestion should be adopted and why, estimated savings if adopted, estimated cost of putting it into operation, etc.

The form is returned to the suggestion secretary, who brings it up at the next committee meeting. If the form is delayed for further tests or investigation, the superintendent informs the secretary; and the secretary writes a note to the suggestor explaining the delay on his suggestion. Nothing can hurt a system more than keeping suggestors in the dark about their suggestions.

Periodically, usually once a month, the suggestion secretary calls a meeting of the committee to consider the suggestions that have been investigated. Each suggestion is read to the committee, with the comments of the investigator, and then it is thoroughly discussed. If additional information is needed for a decision, the suggestion is referred back to the superintendent concerned. After the additional information is received, the suggestion is considered at the next meeting. Again, the suggestor is notified of the delay. After all suggestions have been acted on by the committee, suggestors are promptly advised by letter of the

(*Continued on page 212*)

SUGGESTION SYSTEM NEWS

VOLUME III MARCH, 1953 SECOND EDITION

HOUSEKEEPING AND SAFETY STRESSED

PLAY IT SAFE!

The batter who has just hit a double and is on second base may do one of two things. He may take a big lead off the base with the hope of stealing third or maybe going all the way home in case his teammate gets a hit. Or, if he's not a particularly fast man, he might just "play it safe" and stick close to the base. Which of these two things is the smartest strategy for him to follow is often dependent upon several things such as how good a throwing arm the catcher has, how good a runner the man is, or maybe how desperately his team needs that run.

But after all, baseball is a game - - your job is not! And you don't have to worry about which is the best strategy to follow in getting "home" safely, -- taking a chance or playing it safe. Your chances of getting home safely are practically 100 percent if you always remember to play it safe. That means, don't take unnecessary chances

HOUSEKEEPING AND SAFETY

Some things just naturally go together - ham and eggs, cheese and crackers, coffee and doughnuts ——— AND good housekeeping and safety. As a matter of fact, it is practically impossible to have one without the other. Of course, it would be wrong to assume that a safety record is entirely dependent on the housekeeping because there are other factors that are very important. However, the fact that when housekeeping improves, accidents fall off cannot be attributed to mere coincidence. This has been soundly proved right here in our own organization within the past year.

It was decided some months ago that a concentrated effort should be made to improve the housekeeping throughout the mills with the belief that the safety record would show a corresponding improvement. An appeal for more suggestions on safety and housekeeping was sent out, the safety committees were put on a more active basis, and during the last six

THIS NEWSSHEET is issued monthly in compact style to give the employees more information about the suggestion system.

Monthly Suggestion-Committee Report

Date.....

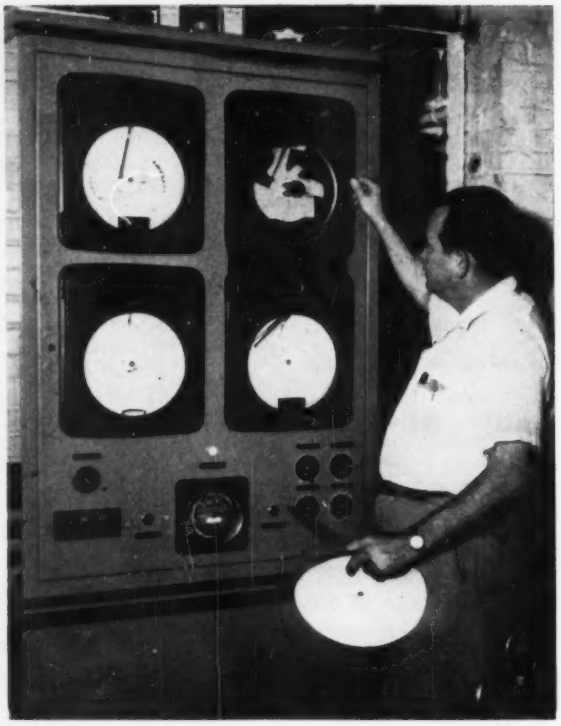
This report covers the activities of this committee from ..... to .....

	This month	Year to date
1. Number received		
2. Number awaiting investigation		
3. Number presented at meeting		
4. Number held pending further tests or investigation		
5. Number adopted		
6. Percent of Line 3 adopted		
7. Number of employees submitting suggestions		
8. Total amount of cash awards		
9. Award average		
10. Highest award paid		
11. Tangible savings paid for		

Date of Suggestion Committee's Meeting this month .....

A REPORT to top management is made by the suggestion committee on the results of its monthly meeting.

BEAM DYEING has been simplified, blowouts are fewer, and results are uniform since Dundee began using automatic controls for dye-liquor flow and pressure.



ADJUSTMENT of the instrument controls for a run is simple now. A master cam, cut for the dyeing procedure desired, is placed in the control position and a clean recording chart is put in.

Pressure and Flow Controls Make WINDING and DYEING Uniform

▶ New dye-liquor pressure and flow controls make it possible to spot trouble and adjust dyeing procedures to suit the physical conditions of the yarn package. Data from dye-process charts indicate corrections needed in winding

▶ Results: uniform density of packages and beams, better dyeing, and batch-to-batch uniformity

By E. DALTON WHITE, McGraw-Hill Atlanta Bureau

ANOTHER FORWARD STEP in automatically controlling dyeing processes has been made by Dundee Mills, Griffin, Ga. Package dyeing and beam dyeing are now measured and controlled by instruments that meter and record the pressure and flow of dye liquor through the yarn packages.

The Foxboro controls installed at Dundee have increased efficiency, improved dyeing, and given the dyehouse a check on how accurately package winding was controlled.

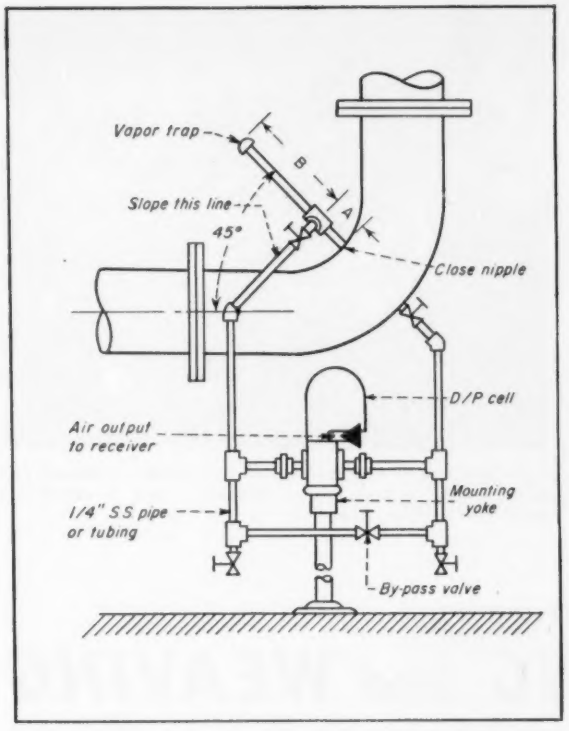
The quality of beam dyeings can be traced, to a large extent, to the suitability of the beams for dyeing. The beam density greatly affects the pressure and rate of flow of the liquid; but in addition to the tightness of the wind, the minimum rate of flow needed to produce level dyeing also varies with the types of dyes, yarn number, end count, total yardage, and yarn weight. However, workable limits of density can readily be determined for each type of beam.

Here's How Proper Conditions Are Established

With the new controls at Dundee, the procedure and time for each dyeing cycle are determined and a master cam is cut from plate aluminum. This cam is then mounted on the Foxboro automatic recording-controller panel. With such a master plate or cam for each individual dyeing or shade, the variables from batch to batch formerly caused by variables in time, flow, and pressure are eliminated.

A recent test on the operations of the installation showed the following results.

Dyeing records of two 374-end beams indicated these conditions:



DIFFERENTIAL PRESSURE in the pumping system is measured as shown here.

DYEING RECORD

Shift No..... Date.....

	1st SET	2nd SET	3rd SET
Color and number			
Package or beam, style			
Dye, redye, strip, or bleach			
Machine number			
Machine operator			
Time started			
Time out			
Temperature			
Head and back pressure			
In charge of shift			
Drug operator			
Gallons of H_2O per minute			
Approved by			
Off shade? Why?			
Flow method used: 1 - 2 - 3 - or 4			
General remarks:			

DYEING RECORDS are kept on these forms. A constant check on performance is maintained.

	Head pressure (lbs.)	Back pressure (lbs.)	Pressure drop (lbs.)	Flow (gals. per min.)
Beam A	40	11	29	580
Beam B	37	12	25	660

These results indicated that Beam A was noticeably more firm and more resistant to flow than Beam B and that the greater pressure drop across Beam A is readily reflected in the lower rate of flow obtained. Less-dense beams would give better dye-liquor flow.

A second dyeing record showed the following results:

	Ends	Head pressure (lbs.)	Back pressure (lbs.)	Pressure drop (lbs.)	Flow (gals. per min.)
Beams A	420	41	11	30	650
Beams B	374	39	10	29	700

This test indicated that Beams A had greater resistance to dye-liquor flow as a result of package density. The difference in flow probably could be compensated for by adjustment of the throttle valve to permit more flow through Beams A by a reduction of flow through Beams B.

A third dyeing record showed the following results:

	Ends	Head pressure (lbs.)	Back pressure (lbs.)	Pressure drop (lbs.)	Flow (gals. per min.)
Beams A	420	37	12	25	600
Beams B	374	37	11	26	600

These results were obtained with a wide-open throttle valve and indicated firmer beams than were used in the sets covered in the second record. A slightly less-dense beam would be desirable.

To obtain maximum efficiency and level dyeing, a flow of 1.5 to 1.75 gals. per min. per pound of cotton is a safe and desirable rate for vat colors.

Why Instruments Are Helpful

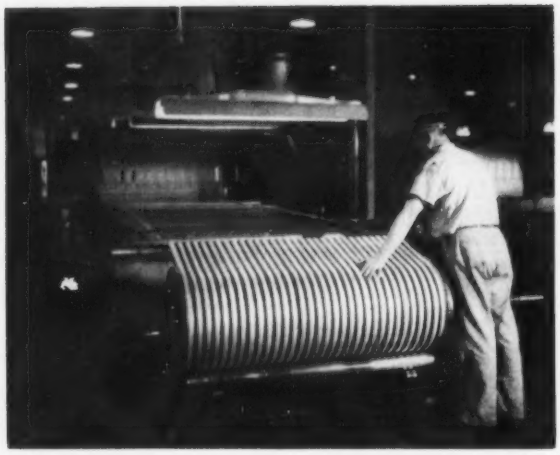
Experience in the dye department at Dundee has been that excessive dye-liquor pressure is not desirable because it compresses the yarn against the beam barrel and heads on outside-in cycles. Operation under such conditions is likely to result in light or undyed sections of the beam (or package).

Another important consideration in obtaining level dyeing is the rate of flow in either package dyeing or beam dyeing. While it might be possible to circulate at a higher rate of flow in package dyeing, it has not been found practical to apply the same standard to beams without risking excessive blowing. Yet, in each instance, the rate of flow must be sufficient to produce level dyeing throughout the yarn.

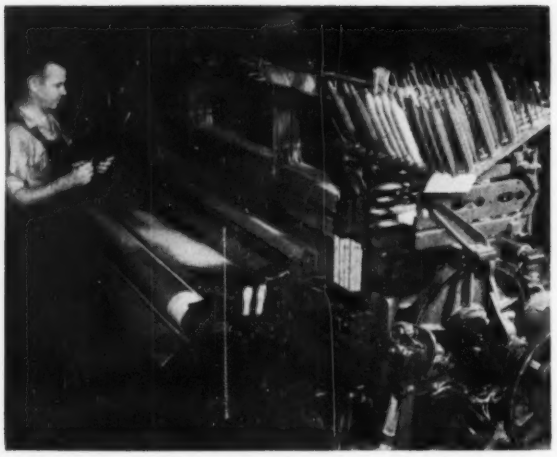
Accurate control of flow and pressure without proper instrumentation is difficult unless beam density is constant. Recorded results in dyeing operations provide an excellent guide for the warping room in the production of beams of uniform density.

Problems in the dyeing operation have, for the most part, centered around just how much head pressure can be applied without blowing the beam. In some installations the only recording device is for pressure; the operator is left without knowledge of the rate of flow of dye liquor. The flow of dye liquor must be at a sufficient rate to effect uniform and reproducible dyeings.

Where beam and package characteristics are standardized, the problems of the dyer are lessened in reproducing shades. Variation in beam density means additional problems for the dyer. With exchange of information between the dyehouse and warper rooms, Dundee is lessening these problems and is obtaining more-uniform beams and better dyeings.



A SACO-LOWELL and three Cocker slashers slash cotton and synthetic-fiber warps interchangeably. James Hambright is the operator of the Saco-Lowell slasher.

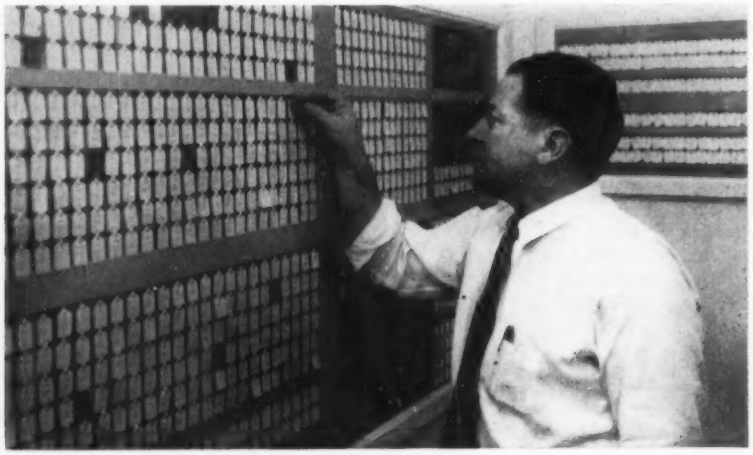


C-4 LOOMS are run automatically and are converted to pick-and-pick as cloth styles demand. James Robinson, weaver, is changing a shuttle on the 78-in. loom.

Versatile DESIGNING and WEAVING Spark Mill's Multifiber Program

Mooresville Mills has 1,702 looms, and all the looms were chosen or altered to make most styles of cotton and synthetic-fiber fabrics. Some of the attachments that make the looms versatile are:

- **Pick-and-pick and automatic conversion**
- **Terry-cloth attachments**
- **Jacquard and dobby heads or cam harness motions**
- **Multipliers for long pattern repeats**



THIS STYLE BOARD, located in the weave-room office, shows at a glance what style of cloth or sample is in every loom in the weave room. Glenn Steele adds a sample ticket.

By RICHARD B. PRESSLEY
Assistant Editor, TEXTILE WORLD

MOST OF THE STAPLE- and many filament-synthetic fibers are being woven in blended fabrics in a variety of patterns, including both apparel and decorative fabrics, at Mooresville Mills, Mooresville, N. C. By the side of the looms weaving the synthetic fabrics are looms weaving carded-cotton materials for government contracts and plain and fancy terry cloth and towels. Combed-cotton fabrics in colored patterns are also woven.

The Diversified Looms Can Weave Many Fabrics

Mooresville Mills is able to weave all these types of cloth because the weave room is equipped with several types of looms—single-shuttle looms and most of the newer types of multiple-shuttle looms. All the looms are supplied with extra attachments to enable them to weave a variety of fabrics. For example, some C-5 looms are equipped with terry-cloth attachments, some have dobby heads or cam harness motions with multipliers, and one group of C-5 looms has jacquard heads.

Fabric-design methods closely con-

nected with improved weave-room practices also contribute to Mooresville's ability to weave many styles of cloth.

Here's the way fabrics are styled. A new style is developed in the designing department; and a warp is beamed, slashed, drawn in, and placed in a loom.

Then the weave-room department starts a series of experiments to determine correct settings for the loom.

For instance, if a single pick of Lurex filling is to be inserted in a staple-rayon drapery fabric as a decorative check on a C-4 loom running pick-and-pick, it's often difficult to cross the harnesses at the proper time to eliminate slack picks and still have the harnesses cross on the staple-rayon yarns for favorable warp-weaving conditions.

Or take the problem of weaving one of the tartan-type plaids in tropical rayon suitings on C-5 looms as an example of loom-styling problems that have to be worked out by the designing and weaving departments. Here the problem is to weave the pattern with as short movements of the shuttle box as possible to prevent broken filling caused by excessive skipping of the shuttle boxes. Another problem connected with weaving tartan plaids is keeping one shuttle out of action too long, which results in slamming off and rolled-up filling that makes jerk-backs.

Fabrics made of Orlon, nylon, and other newer fibers usually require closer loom settings than those used for staple-rayon fabrics.

Once the proper loom settings for a fabric are determined by the weave room, good weave-room practices are used to weave high-quality cloth.

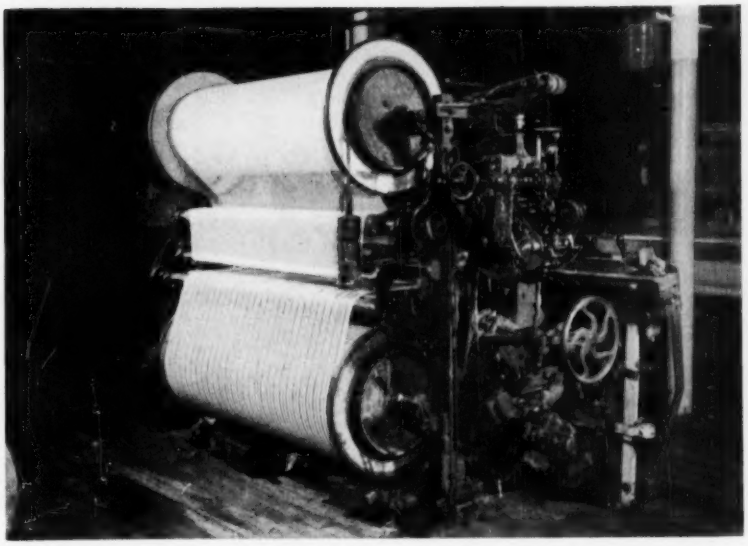
A Loom Style Board Speeds Pattern Changes

A board with cards to show the style and pattern of cloth being run on every loom in the mill is fastened to the wall of the weave-room office. In addition to the style and pattern, the cards give the percentage of the weaving assignment of each woven fabric.

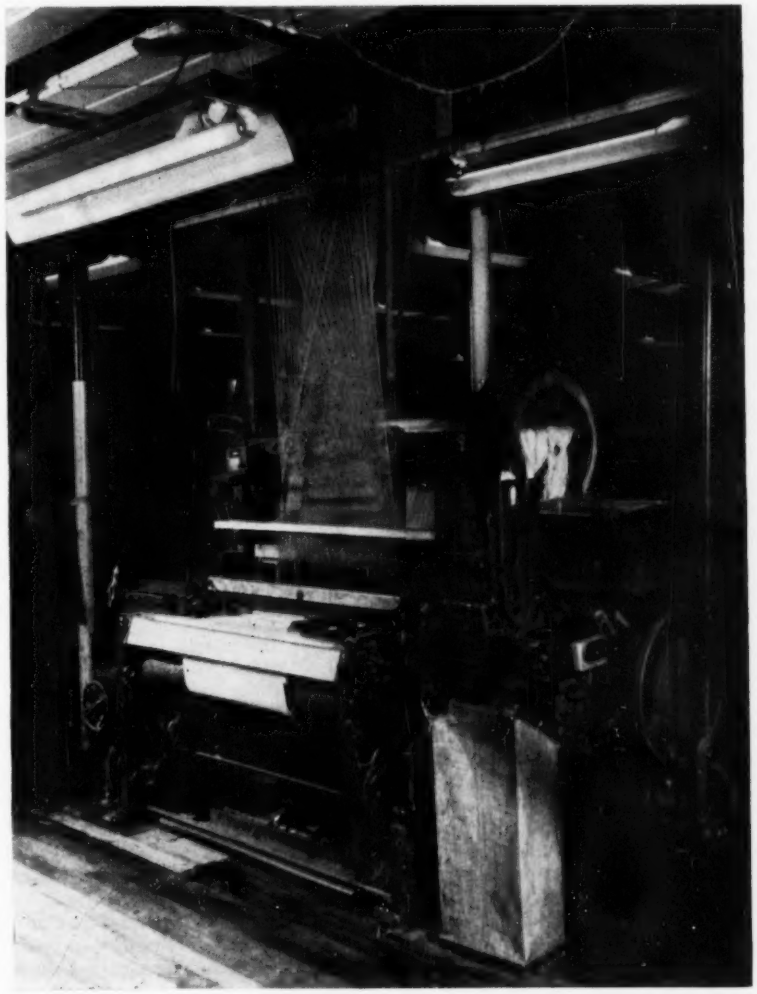
Looms weaving production runs of cloth are represented by white cards on the board, and looms weaving samples are represented by similar red cards.

When a warp is to run out, a card for the new pattern that is to replace the old one is placed over the old card with the blank side out. As soon as the old warp is replaced with a new style, the old tag is removed from the board and the face of the new tag is exposed.

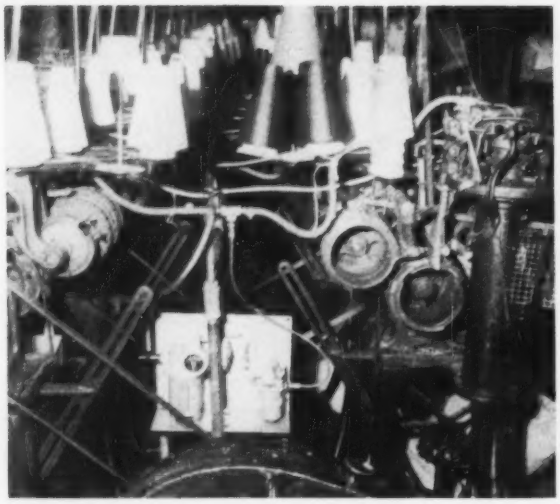
(Continued on page 186)



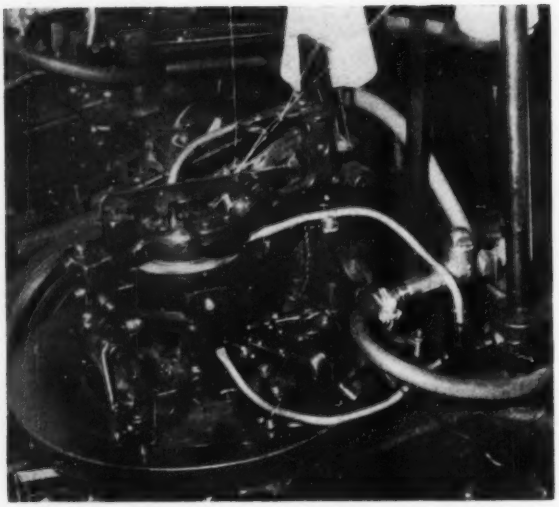
C-5 LOOMS are equipped with a large variety of attachments. This loom is weaving terry cloth in checks with the aid of a multiplier and a terry attachment.



JACQUARD HEADS are used on a group of C-5 looms to weave terry bath and guest towels and wash cloths in matched sets. A terry attachment is used also.



THE AUTOMATIC LUBRICATING SYSTEM shown here functions as follows: Oil from the 12-oz. reservoir to the left is reduced to mist by compressed air in the mixing chamber to the right; the mist is blown through copper tubes to the machine lubricating points.



NEEDLES AND CYLINDER are continuously sprayed by a mist of oil from the two ¼-in. copper tubes shown here in position. The ends of the tubes are flattened to a 0.008- or 0.010-in. opening pointing downward slightly to prevent dripping.

Automatic LUBRICATING SYSTEM *Cuts Knitting Oil Stains 75%*

Two Georgia knitting mills obtain these advantages from automatic centralized lubrication:

- **75 to 80% reduction in oil stains**
- **40% saving in lubricants**
- **Less needle breakage**
- **Constant and uniform lubrication**

By E. DALTON WHITE, McGraw-Hill Atlanta Bureau

OIL STAINS IN KNIT GOODS have been reduced 75 to 80% by automatic centralized lubrication at Griffin Hosiery Mills and Spalding Knitting Mills, both at Griffin, Ga. In addition to this quality advantage, the mills also have found that they use 40% less lubricant, save the man-hours formerly required for oiling the machines, obtain better oiling, and have fewer broken parts, particularly needles.

At both mills, lubricating units are set up to serve a battery of machines. Griffin lubricates 8 to 10 Komet machines and Spalding 22 Scott & Williams B-5 machines with one unit.

The system, worked out and installed by the mills and a representative of Alemite Div., Stewart-Warner Corp., which manufactures the Oil-Mist lubricator used by both mills, works in the following manner:

An oil reservoir, built as part of the lubricator, is filled with 12 oz. of oil. As oil from the reservoir passes to the mixing chamber of the lubricator, compressed air from the mill's air line reduces the drops of oil to a mist. This mist is forced by the compressed air through the system of pipes to the lubricating points, on which it is sprayed continuously.

Extreme-pressure oil of medium viscosity and high film strength but without solid fillers that might clog filters or tubes is used. Condensate from the air line is removed by a self-dumping moisture separator attached to the lubricator.

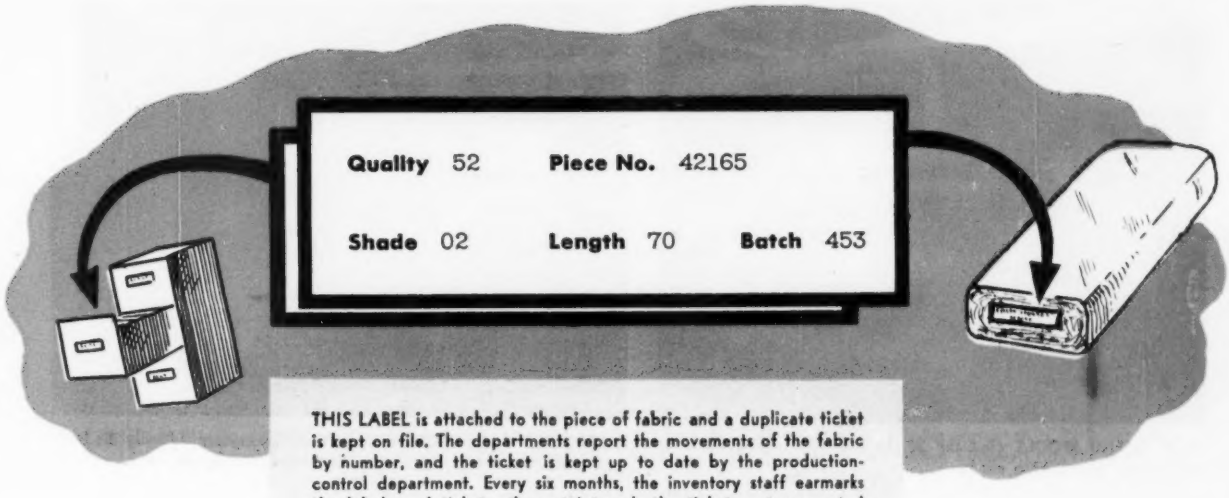
Both mills keep the main air-feed line below 30 ft. in length to avoid condensation in the line. Half-inch lines from the lubricator feed the ¼-in. branch lines that lead to the machine lubricating points.

How Needles Are Oiled

To obtain a proper oil spray on the needles and other moving parts, the opening in the flattened end of the copper tubing at the point of lubrication is kept at 0.008 to 0.010 in. The flattened end of the tube is bent downward at a slight angle to prevent oil from dripping at the tip of the tube. Best results have been obtained by mounting the tube nozzle ¼ to ⅜ in. from the point to be lubricated.

Although the lubricating system insures sufficient and constant lubrication for efficient machine operation, there is no accumulation of excess lubricant to cause oil stains on the knitted product.

(*Continued on page* 198)



THIS LABEL is attached to the piece of fabric and a duplicate ticket is kept on file. The departments report the movements of the fabric by number, and the ticket is kept up to date by the production-control department. Every six months, the inventory staff earmarks the labels and tickets; then at intervals the tickets not accounted for by the records are checked against the physical stock.

A Piece-Goods Control System—

Let Your Control Records Prove Out Your INVENTORY

▶This continuous inventory-taking system works in conjunction with production-control records. The fabric label and office ticket are earmarked every six months, and at intervals the earmarked tickets not accounted for by the records are checked against the physical stock. Missing pieces are easily found, and inventory time is reduced 75%.

By W. BROUILLARD

A SYSTEM OF INVENTORYING that may seem unorthodox, but which is effective, is to let the records do the inventorying. The purpose of inventorying is to prove the physical presence of each piece of fabric in the books, and the records can prove the existence of the stock with a pinpoint inventory system.

A manufacturer of piece goods might have 250,000 pieces of fabric in the gray and finished states, and this inventory is usually changing locations in the plant every day. The stock cannot be frozen except by closing down the plant, and this practice is a costly alternative to a pinpoint inventory system. With an adequate system, an inventory staff makes a complete piece-by-piece turnover of the physical stock two or three times a year; and checks provided by the system make it unnecessary to reconcile the physical stock with the office records.

How the System Works

The pieces of cloth in stock carry labels that show the quality, shade, piece number, length, and batch number. The office record for each piece of fabric in process or in finished stock is a carbon copy of the label, filed numerically according to qualities or styles, with subindexes in numerical order for the various shades in each style.

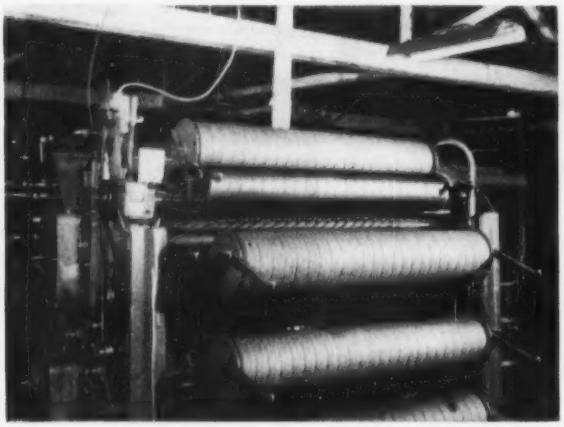
This duplicate label is filed according to the actual location of the piece (dyehouse, shipping, etc.). However, it is not necessary to have a "location" file for every mill department. For instance, files can be maintained for the gray warehouse, dyehouse, and finished warehouse; and many intermediate locations can be disregarded. This arrangement saves much clerical work.

On a particular date, the labels and the tickets in the office are earmarked. The earmark for the office tickets is the date of earmarking. To earmark the fabric, a different label or a different color of ink can be used. Thus, the pieces of cloth in stock are segregated into two parts: pieces with an altered label corresponding to the earmarked piece tickets and pieces with the original labels corresponding with piece tickets not earmarked.

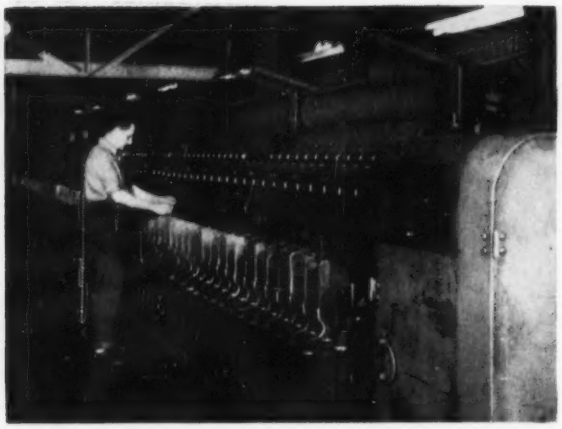
As the pieces are transferred between departments or shipped, the office records are altered accordingly. The pieces that are shipped are removed from the file for finished goods and put in the file for pieces shipped.

If a sample is taken from a piece by the cutting department, the yard-

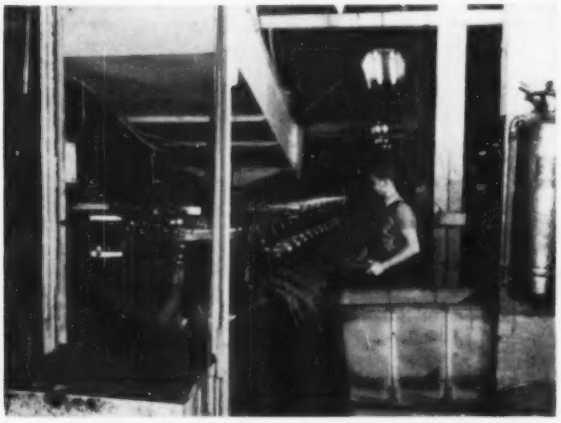
(*Continued on page 204*)



FOUR 24-END SPOOLS wind the 50- to 250-grain roping made on each of the five Whitin cards.



ONE-POUND PACKAGES are spun from jackspools. Dewey Dedman pieces an end on one of the 10 Whitin spinning frames.



END-TO-END CREELING insures almost continuous operation of the two Abbott quillers. Edward A. Robinson tends this quiller.

SPINNING PACKAGES are creeled end-to-end for cone beaming by Carrie Talley and Eveline Knowles.

Blanket Mill Streamlines WOOLEN-YARN Processes

This woolen mill makes only one product—blankets. But to improve overall operations, the old yarn-processing machinery was replaced with new equipment that—

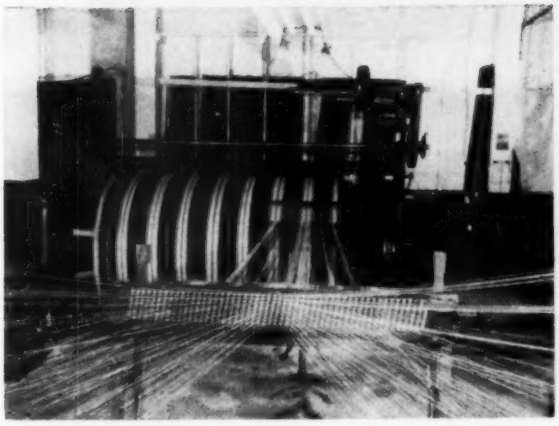
- **Makes roving from raw stock in one continuous process**
- **Quills filling yarn from the spinning package**
- **Beams warps straight from the spinning package**
- **Enables weaving without drop wires**

By RICHARD B. PRESSLEY, Assistant Editor, TEXTILE WORLD

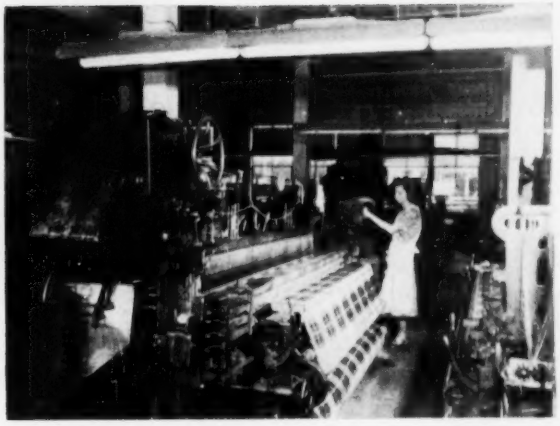
A STREAMLINED yarn-processing system has been established at Lebanon Woolen Mills, Lebanon, Tenn., by the removal of obsolete machinery and the installation of modern machinery that keeps materials moving forward all the time.

Because of the changes, warp and filling yarns are made with few processes, and the yarns are woven with fewer loom breaks per hour.

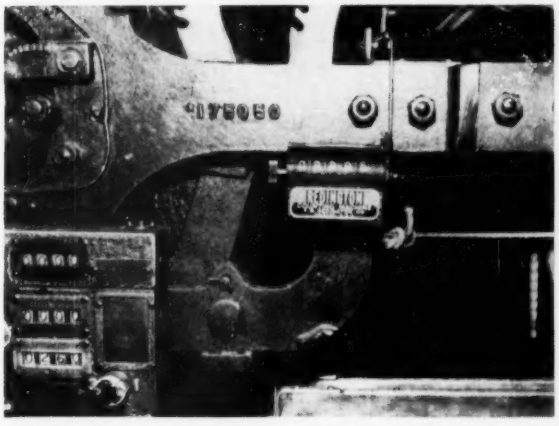
Results obtained from the new processes are higher-quality cloth and higher weave-room efficiency.



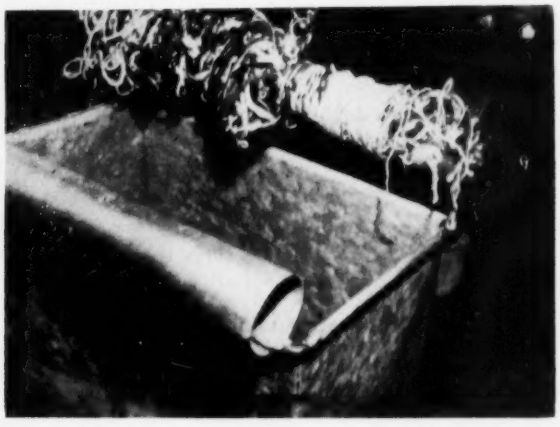
THE CONE-CREELING EQUIPMENT was designed by Lebanon Woolen Mills. The full cone is moved down the track for beaming.



A SCOTCH-PLAID BLANKET is being woven on a W-3 automatic loom equipped with a multiplier. Helen Trammell fills the magazine.



THE COUNTER is connected to a head jack. When a complete blanket is woven, the jack rises and the blanket is counted.



WASTE YARN is removed from exhausted filling bobbins by this belt-driven reel turned by the crankshaft.

Carding and Spinning Feature Large Packages

Wool is usually bought already scoured and is pressure dyed when Scotch-plaid blankets are to be woven. When blankets are to be finished in solid colors, gray stock is used.

Blends are laid out on the floor behind two Curtis & Marble pickers in tandem. Opened and mixed stock is then blown to bins above the five cards. The cards, which are hand fed, are 60x60's equipped with Model E automatic feeds, Model T-1 intermediate conveyors, and Model K4DB double-rub tape condensers that deliver to four 24-end spools.

The roping weights range from 50 grains for light yarns to 250 grs. for heavy yarns.

Jackspools are taken from the condensers to 10 Model E wool spinning frames directly at the ends of the condensers. Each of the frames has 120 spindles of 6¼-in. gauge and 5-in. rings.

Drafts used are from 1.30 to 1.40.

Spinning packages average 1 lb. each. Since the packages are 10 times larger than those available from the mule spinning frames removed, knots in the yarn have been reduced to a tenth of the former number.

In addition, the breaking strength of the spun yarn has been increased. Doffing has been reduced by 90%, and there is less yarn handling.

Carding equipment is both Whitin and Davis & Furber. Spinning machinery is all Whitin.

Quilling and Beaming Skip a Process

Doffed packages of spun yarn to be used for filling are moved to two Abbott quillers near the spinning frames. Each of the quillers has 30 units.

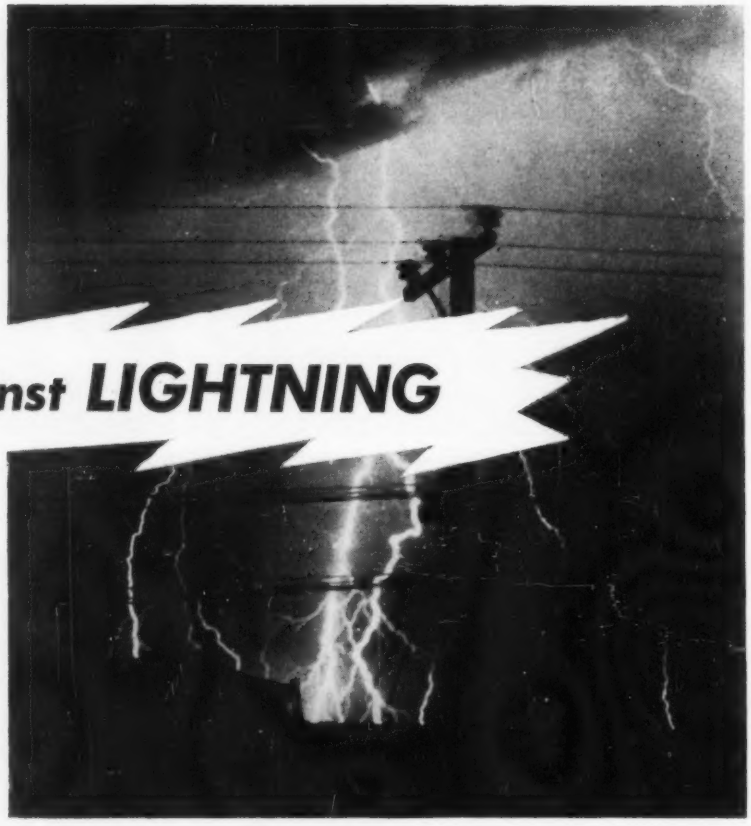
Only one color or size of yarn is run on a quiller at one time. The operator creels new bobbins of yarn to the tails of the bobbins being run so that no unit ever runs completely empty of yarn.

When yarn colors or sizes are to be changed on a quiller, the creels are run out and the quiller is blown off with compressed air and completely cleaned.

Warp yarns are taken from the spinning frames to the beamer room on the floor directly below the Abbott quillers, where they're beamed on a cone-type reel.

All the equipment in the beamer room was designed and made in Lebanon's own plant. The creel was used on the old beaming system but has been reworked to hold two adjacent spinning bobbins so that the second bobbin can be creeled to the bobbin

(*Continued on page 190*)



This Is The Way To Protect Against LIGHTNING

► Avondale Mills begins its lightning protection at the power-company substation and continues the protection throughout the electrical system. Protective devices used are—

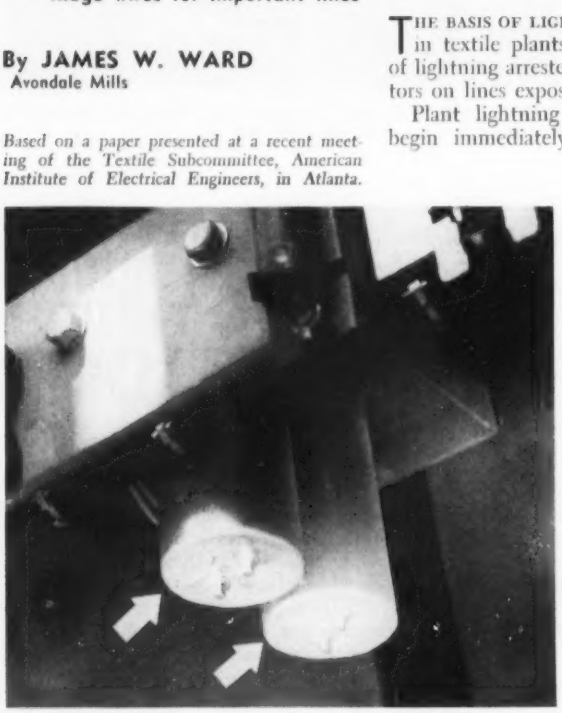
- Lightning arresters and capacitors
- Proper grounds for switchboards and wiring
- Individual circuit breakers at branch lines
- Ridge wires for important lines

By JAMES W. WARD
Avondale Mills

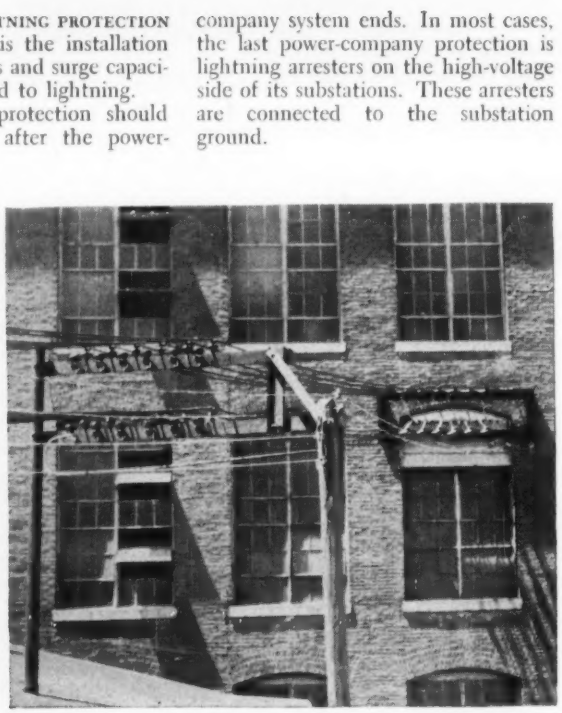
Based on a paper presented at a recent meeting of the Textile Subcommittee, American Institute of Electrical Engineers, in Atlanta.

THE BASIS OF LIGHTNING PROTECTION in textile plants is the installation of lightning arresters and surge capacitors on lines exposed to lightning.

Plant lightning protection should begin immediately after the power-company system ends. In most cases, the last power-company protection is lightning arresters on the high-voltage side of its substations. These arresters are connected to the substation ground.



THE ARRESTER-CAPACITOR mounted in the rear of the incoming-line panel of an outdoor switchboard adequately protects the switchboard from lightning.



LIGHTNING ARRESTERS are connected to each of these four lines entering a building. The power comes from an indoor switchboard in another building. Lines also have arresters at the first building.

Start Protection at the Power-Company Substation

We at Avondale begin our protection between the substation and our main switchboard breaker. Lightning arresters by themselves, or lightning arresters in conjunction with surge capacitors, adequately protect our wiring and equipment.

All indoor switchboards have lightning arresters connected to the incoming line at the point where the line starts through the mill wall.

We have replaced oil-breaker switchboards with draw-out air circuit breakers and lightning arrester-capacitor combinations. The first switchboard equipped with lightning-protection devices has a three-phase Thyrite lightning arrester and a three-phase capacitor placed in position separately.

Five newer switchboards were built with these same lightning-protection devices as part of the specifications.

The lightning arrester-capacitor is mounted in the rear of the incoming-line panel of outdoor switchboards. The arrester-capacitors are connected directly to the bus and to the switchboard ground bus.

Ground buses of outdoor-type switchboards located adjacent to power-company substations are connected to the substation grounds.

New indoor switchboards have, or will soon have, lightning arresters and capacitors mounted similarly and connected in the same manner as the outdoor switchboards. On indoor switchboards, the ground bus is connected to a 6- to 8-in. main water line or to a sprinkler line. The water or sprinkler line is filed to insure a clean surface, and a $\frac{3}{16}$x2-in. copper bus is strapped to the filed surface. Ground wires are connected to the switchboard ground bus and run to the strapped pipe.

The ground wire for both outdoor and indoor switches is No. 4/9 bare stranded-copper wire.

Individual Circuit Breakers Protect a Series of Lines

In some cases, loaded lines are connected to the substation bus through individual circuit breakers. For example, in one installation we have a boiler-room line, a village-distribution line with a voltage regulator, a line for a series of fence lights, and a switchboard line for shop and supply-room lighting.

The boiler-room line has lightning arresters on its first pole.

The village-distribution transformers are self-protected and have lightning arresters on each side of the voltage regulator. In addition, there are lightning arresters at the top of the first pole. The constant-current regulator is the self-protected type.

A feeder line supplying a load from one building to another is equipped with a lightning arrester at the outside of each building. The two arresters are essential when a switchboard located in one building supplies power to lines in another building.

Some of our outside loads are at great enough distance from the mill or switchboard to require pole lines. In these instances, we install lightning arresters at each building or at the end poles. If the load is of sufficient importance, we include a ridge wire (overhead ground wire) over the line and place surge capacitors at the load. The ridge wire is grounded at each second or third pole.

We are installing a new overhead line from the power company substation to one of our mills (LaFayette). The 600-ft. line is composed of six 350-MCM bare-copper wires and is three spans long. The installation includes a No. 2/0 base copper ridge wire grounded at each pole and grounded to the water system at the mill. The ridge wire is also connected to the substation ground.

Lightning arresters are placed on each wire at the pole next to the substation and at the pole next to the mill wall. Two three-phase surge capacitors are mounted on the mill wall and connected to the line.

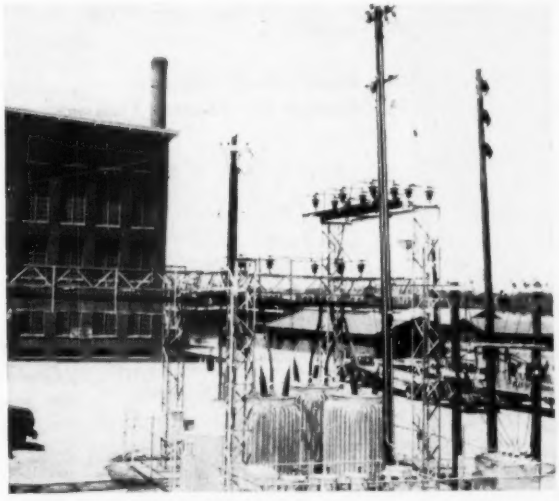
One Line With an Extra Span Has Never Had a Failure

Another method of handling the end of a long exposed line is to extend the line one span beyond the load. Lightning arresters are placed on the last two poles. We have only one line of this type and have had no failures in the circuit.

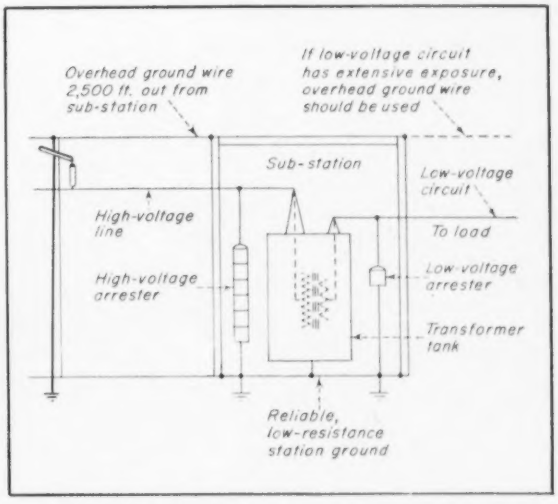
Since starting the installation of lightning-protection equipment, we have placed safety devices on all new lines and now have most old lines protected. Even with all the safety devices, we still have motor failures during lightning storms.

We attribute the failures to lightning surges coming in through the switchboards and the lines or to surges generated in the long network of lines in the mill. The failures occur on

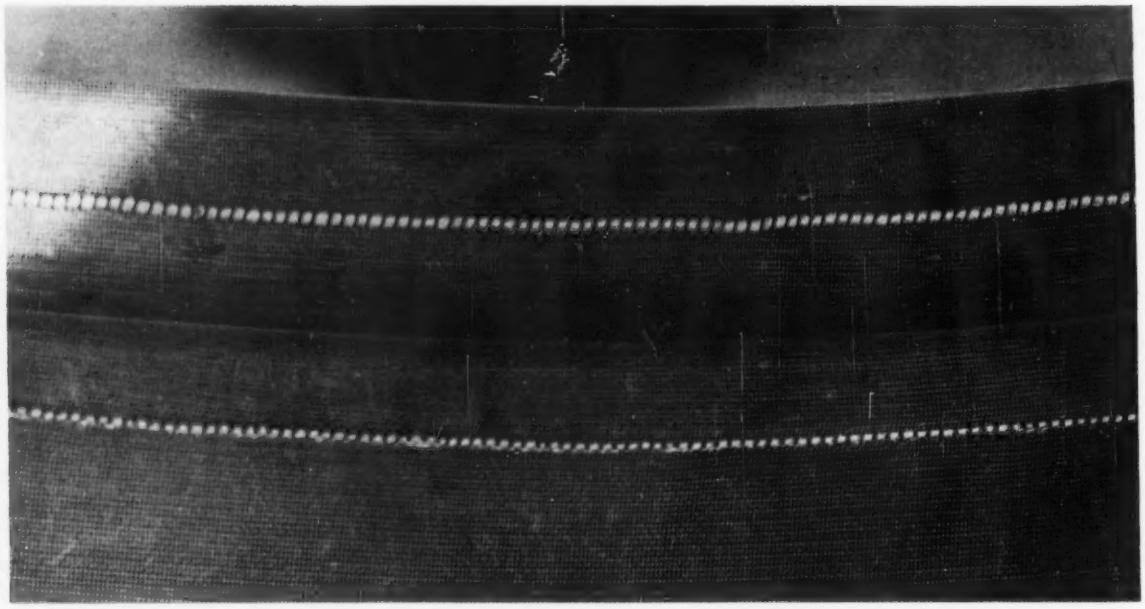
(Continued on page 230)



INDIVIDUAL CIRCUIT-BREAKERS in some cases connect loaded lines to the power-company substation. Here, lightning arresters are located at top of pole and on each side of the voltage regulator.



OVERHEAD GROUND WIRE is used as extra protection at this substation. The No. 6 solid-copper wire is equipped with lightning arresters and is grounded at each second or third pole along the line.



THE NEEDLE THREAD in the stocking on the top has spread and caused this poor seam appearance. The neat seam on the bottom was obtained with the new method of threading.

New Threading Method Improves FULL-FASHIONED Seams

▶A new threading arrangement takes the needle thread out of the thread-ratio control so that it can be tightened independently of the looper threads to produce a better seaming job.

By SAM BOYER

FULL-FASHIONED HOSIERY STYLE CHANGES present many problems in the seaming department, where varied attempts are made at seam improvement. Most foremen-fixers are able to overcome the style changes with various sewing-machine adjustments.

Some of the poor seaming is caused by external factors that call for outside remedies, but machine difficulties can often be overcome by adjusting the master tension. A new method of threading allows independent adjustment of the needle thread and looper threads, and better seaming is the result.

Check These Points Before You Blame the Seamer

To produce quality seams, special problems in seaming-thread control must be overcome. The problems are caused by:

1. Uneven selvages that result from improper adjustment of the knitting machines
2. Bad throwing of knitting yarn
3. Too much humidity in the knitting or seaming departments
4. Poor-quality seaming thread

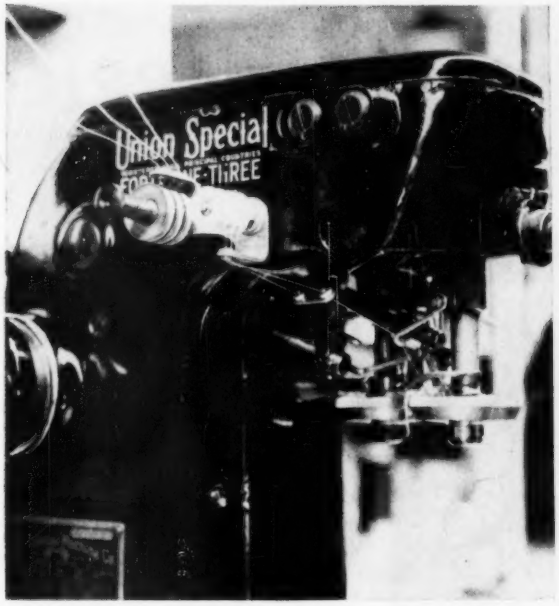
Other problems in seaming are sometimes more difficult to solve. A certain style of stocking may be knitted with a minimum number of courses to the inch to meet specifications in finish. A nylon stocking may be fully coursed and knitted under ideal conditions in an air-conditioned knitting room and then preset in some type of steam box; but the stocking may be exposed to excessive humidity before seaming.

These conditions, and others, will cause knotty and tight-appearing seams. The knotty appearance of the seam on the inside of the stocking is clearly visible through 12- and 15-den. nylon when the stockings are finished and are turned right side out for a final inspection.

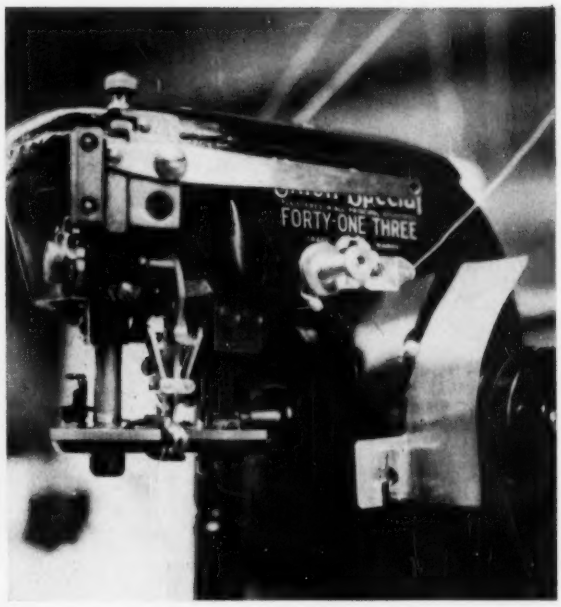
Fixer's First Impulse— Loosen the Master Tension

To relieve the appearance of the supposed tight seam, the fixer's first impulse is to loosen the master tension on the thread-ratio control. Loosening the master tension relieves the unsightly appearance of the seam to some extent. If the master tension is loosened enough to relieve the tightness of the two looper threads, the needle thread will be too loose and will spread or "grin."

Nylon seams can be greatly improved by changing the threading arrangement on the hosiery-seaming machines. The conventional method of threading hosiery seamers is to have all three threads under control of the master tension. This tension is located on the left-hand side of the machine



CONVENTIONAL METHOD has all three threads pass through the thread-ratio control on the left side of the machine.



IMPROVED METHOD adds an independent tension device for the needle thread, on the right side of the machine.

to the operator's left as she faces the machine.

Both looper threads and the needle thread must be threaded through various eyelets, tension disks, and rollers on the left side of the machine before the two hooks and the needle are reached.

Improved Threading Method Allows Independent Adjustment

In the improved method of threading, the needle thread is removed completely from the thread-ratio control. The two looper threads are not changed. The needle thread is passed through an independent tension on the right side of the machine.

The needle thread is passed over the top of the looper bar beneath the head of the machine and threaded from right to left through a triangular eyelet.

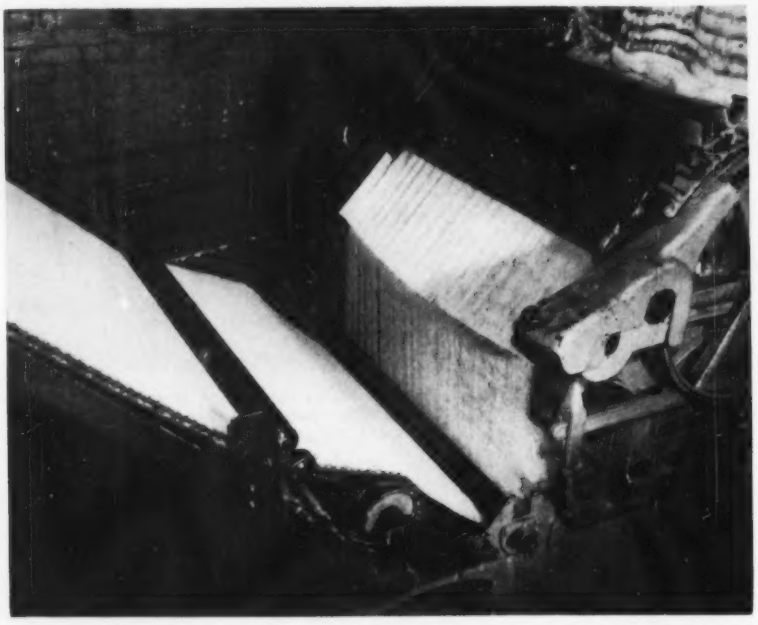
This direction is opposite to conventional threading, which is from left to right. After passing through the triangular eyelet attached below the machine head, the thread is passed to the needle through the regular eyelets in the conventional manner.

The seam is improved because the needle thread can be tightened slightly while the two looper threads are loose enough to prevent any tightness or knots from occurring.

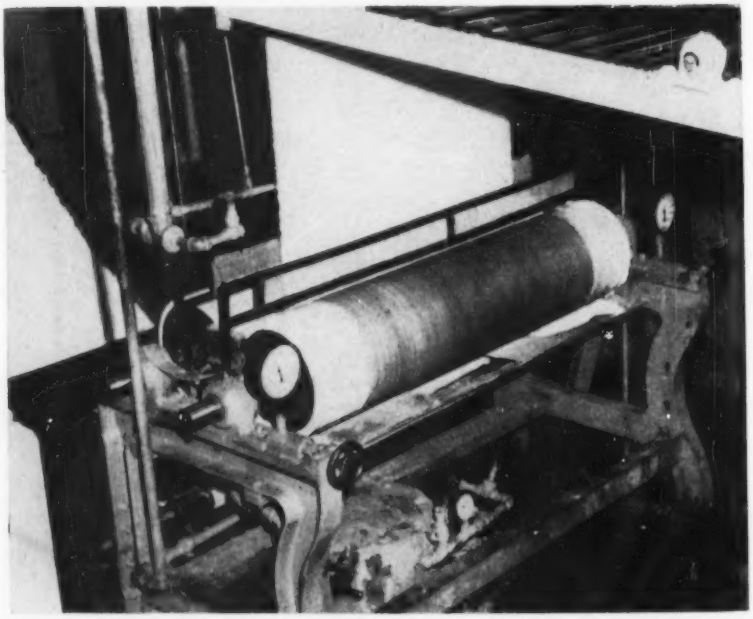
With correct adjustments to the tensions, the stockings will have uniform elasticity throughout their entire length.

THE NEEDLE THREAD passes over the looper bar and is threaded from right to left through the triangular eyelet.

Avondale's NONWOVEN FABRICS



WEBS from the cards in tandem are collected on an endless conveyor belt. The random-web unit is bypassed to make this four-web sheet. The process, direct and continuous from picker laps to nonwoven fabric, is adaptable for three, four, or five webs.



THE IMPREGNATOR that applies the plastic bonding agent to the webs is fed by gravity feed from the mixing tanks. Pressure on each end of the squeeze rolls is set by gauges. An air-pressure tank returns excess solution.

▶ A fast, continuous homemade range at Avondale Mills is turning out fabric consisting of card webs bonded by a plastic. Machines used are a picker, cards in tandem, an optional random-web unit, an impregnator, and an oven. A variety of finishes, including bonded-in color, are used.

By THOMAS B. WINSTON
Assistant Editor, TEXTILE WORLD

NONWOVEN FABRICS, called Plastavon, are made by Avondale Mills, Sylacauga, Ala., from garnetted cotton-thread waste or staple rayon. The fabrics are made by impregnating webs with one or another of the new synthetic plastics available since World War II.

The rayon fabrics are made entirely from card webs, but the cotton fabrics are made either from card webs or from a sandwich made by placing card webs on each side of a random web produced by a special random-web unit developed by Avondale. The cotton used is bleached, garnetted soft white threads; rayon is first-grade, 1 5/8-in., 1.5-den. bright staple.

Cotton threads are garnetted and bleached in loose form in the dyehouse. The rayon staple is stored in bale form close by the picker. A conventional picker, making a 14-oz. lap, is the first unit in the fabric process.

Two Processing Lines Are Used

One of the continuous nonwoven-fabric ranges at Avondale is a straight five-cards-in-tandem range with an endless belt to collect the webs, an impregnator with pressure rolls, a dryer, and a batcher to make the cloth roll. The other line is essentially the same, except that it has the random-web unit in tandem with four cards. The random-web unit, located after the first card in the line so that a card web is underneath it on the conveyor, can be bypassed to make all-carded fabric. The carded webs on each side of the random web give a more-even appearance to the fabric.

The random-web unit is a com-

Are Made by a Continuous Process

bination of a high-speed lickerin, an air stream, and a revolving-screen take-up. The lickerin whips off the incoming fringe of the picker lap, and the air stream blows the individual fibers in all directions. The fibers are picked up on the surface of the revolving screen and are delivered to the endless belt in the form of a random web.

The multiple-web sheet, all-carded or random-sandwich, is impregnated with the plastic solution in the impregnator; and excess solution is squeezed out before the sheet passes into the drying oven. Roll pressure is the same at each end and is maintained by a homemade system that has a hydraulic cylinder and pressure gauges at each end. The overflow tank has an air-pressure return to the solution storage tanks. A pump was tried for this job, but the solution clogged the pump elements. The intermittent blow back with air pressure doesn't require any parts that can clog.

Oven Was a Slasher Dryer

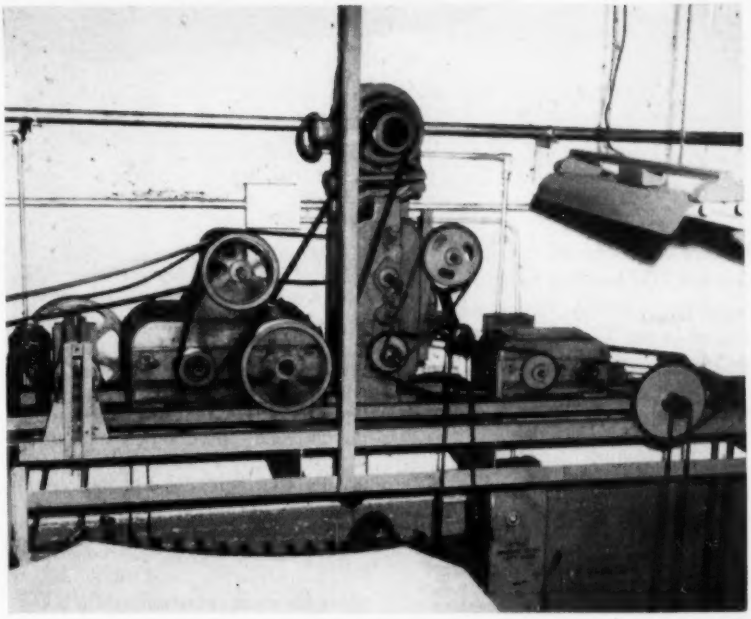
The oven is a slasher dryer that was adapted to the special requirements of the direct process. The dryer has three blower systems. The moisture is driven out of the sheet in the low-temperature sections of the oven, and then a high-temperature section gives a fusing and curing action to the plastic. A nonwoven fabric in which the fibers are held together by the bonding plastic is the result.

The web that goes into the oven comes out as a sheet of nonwoven fabric and is wound into a roll on the batcher. Edge trimming was done on the batcher at first, but it was difficult to get a straight roll at this point; so trimming and roll straightening were eliminated from the range and are now done on a separate machine.

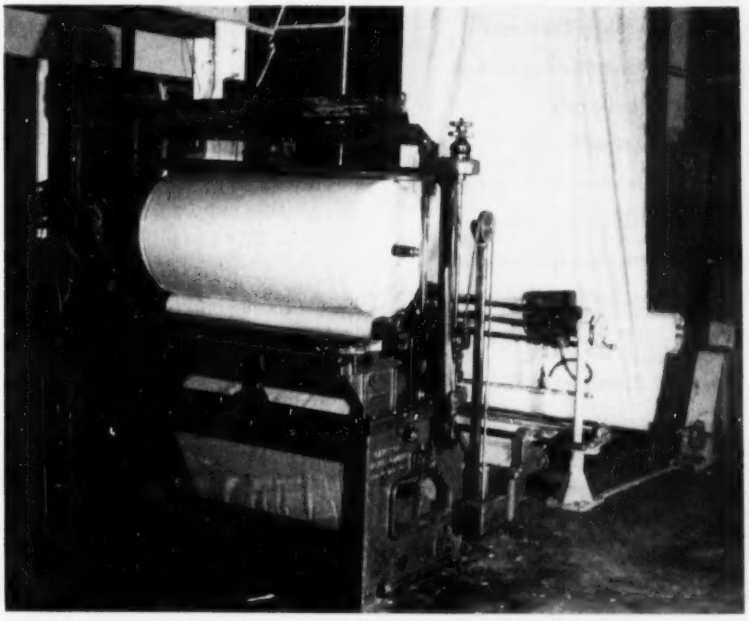
The processing range has a 10-hp. central drive that, through a power take-off, drives everything in the range except the card cylinders, which have individual 7½-hp. motors, and the blower system in the oven.

The plastic solution is made up in stainless-steel tanks located in the picker room on a raised platform built against the wall. The ingredients, and any colors that are to be used, are

(*Continued on page 196*)



THIS CENTRAL DRIVE operates from the 10-hp. motor on top through the power take-offs to all the units in the range except the card cylinders, which have individual 7½-hp. motors, and the blower systems in the oven.



ROLLING UP and edge trimming are the final steps. Here, the fabric can be slit into ribbons of any width or kept as a sheet. Rolls turned out by Avondale may be cold-calendered, hot-calendered, printed, embossed, or coated.

Georgia TOE Surveys 16 SPINNING Subjects

▶ Here's the second section of the Georgia TOE meeting held in Atlanta recently. Carding topics were reviewed in the June issue of TEXTILE WORLD.

▶ The subjects in this report include:

- **Training**
- **Ball-bearing spindles**
- **Spinning staple rayon**
- **Revolving vs. flat clearers**
- **Pin clearers for travelers**
- **Traveler use**
- **Cleaning schedules**
- **Roll picking and oiling**
- **Overhead cleaners**
- **Pneumatic roll pickers**
- **Spindle oils**
- **Controlling fly**
- **Tolerance in yarn numbers**
- **Wild yarn in spooling**
- **Handling spooler yarn**
- **Rewound filling**

Training Spinners and Doffers

Most Georgia mills that answered the question on this subject train spinners and doffers by putting the new employees with an experienced operator. Some of the methods and some of the variations worthy of particular mention are:

Mill A uses the class method with 10 to 20 learners under a full-time instructor. When the new employees can handle 75% of a job, they are turned over to the foreman.

Doffers at Mill J are selected from cleaners and traveler changers who have learned to piece up ends.

Mill P hires two learners at a time and puts them with an experienced operator trained in instruction methods. Only one phase of the job is taught at a time, and the learner must master each phase before advancing to the next. Learner spinners can usually take half of a full job on the sixth day, and the instructor then gets another pair of learners.

To assure proper instructions, there is an instruction book with lesson plans for each operation and a schedule of what to teach and practice each day. There is a progress sheet and a timetable for each learner. Most spinners are trained in less than 30 days.

To train doffers, Mill R departs from the usual procedure somewhat by putting a doffer learner with a spinner until he can piece up ends well. Then the new man is put with an experienced doffer for 6 hrs. a shift. The other 2 hrs. are used to practice piecing up.

At Mill X an experienced spinner is taken off her job completely to spend the first two or three days with a learner. Doffers at this mill are trained in pairs. Two men spend a few days with a spinner first and then go to work with a good doffer. When ready, the two learners are put on one job to run together until they can do a job alone.

A boy who has been on general work in the spinning room for at least a year is selected for training with an experienced doffer at Mill Y. "The laziness of the old doffer will cause him to bring this learner along quickly, and by this method we have cut training time in half," says the superintendent.

Eleven weeks is the maximum training time allowed at Mill CC, where the learners work with old doffers.

Prospective spinners at Mill GG are first put with roll pickers to become familiar with the department, fellow workers, and supervisors. New doffers are put to sweeping or hauling yarn or running the quill stripper until they are familiar with the department.

At Mill H, one instructor handles up to twelve girls at a time because the learners work in pairs and are put out on their own in short order. The instructor assigns another side to each trainee as soon as she can handle it. A written report is submitted every day on each learner so that a running record can be maintained.

Ball-Bearing Spindles

Careful tightening with a torque wrench appears to be the answer to plumbing troubles that occasionally occur with ball-bearing spindles. Opinions vary widely. Some mills have had no trouble and believe the new spindles keep plumbed better than conventional ones, but others apparently have had trouble on this score.

Frequency of greasing ranges from three months to five years, and most mills are on either a two year or a six-month schedule.

Traveler life was reported to be about the same as it was before the new spindles were installed. Very little or no trouble was reported with spindles sticking.

Yarn numbers of the mills using ball-bearing spindles ranged from 8s to 110s. One mill making 58s yarn runs spindles at 10,000 rpm. with a 1¾-in. ring and a front-roll speed of 121.5 rpm.

Spinning Staple Rayon

The question on this subject specified experience with H&B four-roll spinning frames.

Mill K spins 21s from 100% rayon, 1.5 den., 1⅞-in. The middle top roll

was replaced with a self-weighted roll and a jump-type saddle. This system runs fairly well, but the 1 7/32-in. second roll laps quite a bit. Better results were found with double-creeled 2-hk. roving than with single 1-hk. roving because the lower draft gives better fiber control. An experiment with taking out the small second roll was not satisfactory because poorer fiber control resulted with the three-roll system.

Mill FF uses 1 5/8-in. rayon also with a 2½-in. ring, a spindle speed of 6,500 rpm., and a twist multiplier of 3.90. Running conditions were improved by: determining the proper humidity for each process, slowing down the roving traverse on the spinning frames, and running the rayon entirely separate from cotton. Using a front top roll larger than 1 in. decreased laps, and removing the middle weighted roll improved cockled yarns.

Revolving vs. Flat Clearers

This question was limited to Roth spinning.

On yarn numbers above 15s, Mill A gets good results by removing all but four or five flat clearers from the back and middle lines. Overhead cleaners keep aprons and back sides clean. The few clearers are rotated to keep the top rolls clean.

Mill E put revolving clearers on the front line and kept flat clearers on the others. Slubs caused by cleaner waste are fewer since the change.

The back rolls at Mill K load up too fast if back clearers are left off, and with the clearers on it is necessary to clean them every 24 hrs. On Duo-Roth spinning, the mill has found that the revolving clearer does a better job on the middle and back rolls. There is some rolling of waste, but not much. The mill has no overhead fans or cleaning devices.

When overhead cleaners are in operation, flat clearers are preferred at Mill O because wind has a tendency to blow waste off the revolving clearers into the work. Offset pins in the revolving clearers did cut down on the rolling up of waste on the clearer, however.

Flat clearers on the middle and back lines haven't been used for 20 years at Mill P because they increase roll cleaning. The two back lines are open, and revolving clearers are used on the front line. Overhead cleaners blow out loose lint before it accumulates. Waste does not roll up on the revolving clearers.

Mill R, which has flat clearers on the back two lines, has trouble with clearer waste getting in the yarn. Ceiling fans are now being installed, and revolving clearers are being tested on six frames. Overhead traveling cleaners are used at this mill.

GEORGE McMILLAN, superintendent, Crystal Springs Bleachery, Chickamauga, led the discussions on spinning subjects.

Back revolving clearers are on 28 frames at Mill A, and three benefits have been realized: (1) better quality, (2) less cleaning necessary, and (3) more cleaning done by overhead cleaners.

Pin Clearers for Travelers

Of 26 mills that commented on this subject, 24 consider clearers necessary for good work.

One of the 24 mills uses a detachable cleaner slanted in the direction the traveler goes. The other 23 use pin clearers, and there was no general agreement as to whether the clearer should be bent away from the ring or toward it.

Mill D bends the clearer toward the ring for small-circle travelers and away from the ring for large-circle travelers.

Mill F-1 bends the pin away from the ring to contact more of the traveler for better cleaning, but Mill F bends them toward the ring slightly for the same reason. As a further complication, Mill Z sets the clearers straight because "the full effect of the clearer is lessened when all the surface of the clearer is not exposed to the fibers that might hang in the traveler."

At Mill U, the yarn number determines whether the pin clearer will be set toward or away from the ring.

Cleaning Schedules

Here are the cleaning schedules of the mills that specified type of stock and yarn number:

▶ 4s to 20s, ⅞-in. LM to 1¼-in. M

Hourly—Run out thread guides.

Every 2 hrs.—Brush rails.

Every 4 hrs.—Wipe out back sides.

Every 8 hrs.—Pick top rolls, wipe roll bars and stands, pick roll stands by hand, pick separators, wipe single-roving creels.

Every doff—Clean scavenger rolls.

Weekly—Wipe back of base rails, pick steel rolls, pick weights, pick roll stands with hook, clean ring rails, wipe double-roving creels.

Every 60 hrs.—Clean revolving clearers.

▶ 58s and 110s, Egyptian

Every doff—Brush beneath lids, front of beam, and rail.

Twice a week—Pick rolls with roll picker.

Daily—Wipe top, head, and foot ends.

Weekly—Brush cap bars, apron brackets, and beam.

Every 2 wks.—Wipe top and bottom creel boards, underclean lower part of frame.

Monthly—Clean revolving top clearers.

▶ 10s to 19s, ⅞-in.

Every 2 hrs.—Brush spindle rails.

Every 4 hrs.—Run out thread guides.

Daily—Blow off, pick top rolls.

Every 8 hrs.—Wipe backs, wipe top roving.

Weekly—Wipe bottom roving, clean ring rails, clean revolving clearers, clean top flat clearers, clean creels with brush.

▶ 31s, 1 1/16-in. M

Every 4 hrs.—Mop base and bolster rails, clean guides.

Every 8 hrs.—Brush rockers and rails.

Daily—Clean top rolls, cradles, aprons, and flat clearers.

Every two days—Clean backs, plates, and lever screws.

Every three days—Clean pin rolls and revolving clearers.

Weekly—Clean backs under clearers. Blow off.

Every 2 wks.—Clean creel boards.

▶ 14s to 27s, 1-in. SLM

Daily—Brush clearer boards, pick revolving-clearer shafts, clean front scavenger rolls, pick chokes from steel-roll necks, mop rails three times, clean base rails and rockers, pick front top rolls, clean revolving front top clearers, clean frame ends and roving traverse, clean front rolls with cleaning fluid, clean back roving tapers at top and bottom.

Daily with frames stopped—Clean separators with rag, pick slip rolls, clean between thread boards, clean lifter rods, wipe stands, brush guides, finger-pick bottom rolls, pick chokes from stirrups and aprons.

Weekly—Clean roving trumpet bars, clean under top creels, clean back scavenger rolls, clean apron hangers,

Here Are 67 Examples of Traveler Use

Yarn number	Ring data Size (ins.)	Flange	Age (yrs.)	Gauge (ins.)	Spindle speed (rpm,)	Traveler size	Hours run	Maximum traveler speed (ft./min.)
3s	1 5/8	2	3	3	5,920	34	144	2,520
4s	2 1/8	—	—	3	2,500	4	144	5,000
6s	1 3/8	2	—	2 3/4	5,400	26	120	1,945
7s	1 9/16	2	7	3 3/4	5,229	14	144	2,145
7s	1 5/8	2	3	3	6,900	14	144	2,935
7s	2 1/8	2	2	3	6,507	20	96	3,620
8s	2 1/8	2	7	—	7,412	14	144	4,140
8s	2 1/2	2	7	4	7,100	16	48	5,200
8s	2 1/2	2	6	4	6,150	15	144	4,025
9s	2 3/4	2	1	4 1/2	7,350	10	120	5,290
10s	2 1/2	2	1/4	3 1/2	6,265	12	144	3,280
10s	2 1/8	2	2	3	6,507	9	96	3,620
10s	2 1/2	2	—	3 1/2	7,786	12	96	5,090
10s	2 1/2	2	4	4	8,000	12	96	5,600
10s	2 1/2	2	7	4	7,600	12 1/2	48	5,200
11s	2 1/4	2	2	3	7,600	6	72	5,200
11s	1 9/16	2	7	3 3/4	7,671	11	144	3,140
12s	2 1/4	2	12	3	8,500	8	96	5,000
12s	2 1/2	2	4	4	8,000	10	96	5,600
12s	2 1/2	—	1	3 3/4	8,070	10	120	5,290
12s	2 1/16	2	3	3	8,040	6	144	4,340
12s	2 1/2	2	6	4	6,850	10	144	4,483
13s	2 1/2	2	4	4	8,000	9	96	5,600
13s	2 1/2	—	—	3 3/4	7,945	10 1/2	190	5,200
14s	2 1/8	2	2	3	8,321	7	96	4,640
14s	2 1/8	2	4	3	8,300	10	96	4,720
14s	2 1/8	2	4	3 1/2	9,012	8	92	5,000
14s	2 1/4	2	1	3 3/4	8,106	8	120	4,780
14s	2 1/4	2	2	3	—	9	72	5,200
15s	2 1/2	2	—	3 1/2	7,348	8	96	4,810
15s	2 1/2	2	—	4	8,490	8	120	5,550
15s	2 1/2	—	—	4	8,802	8	96	5,800
16s	2 1/8	2	7	—	7,412	8	144	4,140
16s	2 1/8	2	4	3	8,300	7 to 8	96	4,720
17s	1 5/8	2	18	3 1/2	7,720	4	120	5,600
17s	2 1/2	—	—	3 3/4	8,125	7	190	5,295
17s	2 1/8	2	4	3 1/2	8,501	7	92	5,000
18s	2 1/2	—	2 to 4	3 3/4	8,820	7	190	5,295
19s to 25s	2 1/4	1	1 to 5	3 1/2	9,000	1 to 6	144	5,300
20s	2 1/8	2	7	—	8,085	7	144	4,500
20s	2 1/8	—	—	3	9,300	42	72	5,000
20s	2 1/4	—	—	4	9,110	4	96	5,400
20s	1 3/8	2	—	3	8,460	5	120	3,050
20s	2 1/4	2	—	3 1/2	9,675	3	120	5,700
21s	2 1/4	2	2	3	8,813	2	72	5,200
21s	2 1/2	2	1	4	8,892	2/0	7.2	5,600
22s	2 1/4	2	6	3 1/2	6,797	8	144	3,560
22s	2	2	1	3 3/4	8,561	3	120	4,490
22s	1 9/16	2	7	3 3/4	9,522	2	144	3,895
23s	2	2	4	3 1/2	9,121	3	92	5,000
24s	2 1/8	2	2 1/2	3 1/2	8,500	2/0	120	5,000
24s	3 1/8	1	—	3 1/4	9,300	3	144	5,200
25s	2	—	—	3 1/2	8,475	2	144	4,500
28s	2 1/8	2	7	—	8,897	3/0	144	4,950
29s	2 1/2	2	—	3 1/2	10,447	4/0	48	6,840
30s	2	1	1 to 5	3 1/4	9,000	5/0	144	4,700
30s	2	—	—	3 3/4	9,147	1	120	5,000
31s	2	—	—	3 1/2	9,450	3/0	144	5,000
31s	1 7/8	1	—	3 1/2	10,200	1/0	144	5,200
33s	2	2	5	3	8,349	5	144	4,360
40s	1 3/8	1	—	3	9,600	9/0	144	5,200
41s	1 3/8	—	—	3 1/2	9,550	9/0	144	3,750
58s	1 3/4	1	1	3 3/4	10,000	12/0	—	4,582
60s	—	—	—	3	9,000	8/0	216	4,000
80s	—	—	—	3	9,000	12/0	216	4,000
90s	—	—	—	3	9,000	16/0	216	4,500
100s	—	—	—	3	9,000	18/0	216	5,000
110s	1 3/4	1	1	3 3/4	9,500	21/0	—	4,352
120s	—	—	—	3	9,000	24/0	216	5,000

pick stands with hooks, clean cap bars and roving rods, wipe top roving, wipe bottom roving, clean under bottom creels, pick weights, pick under spindles, clean behind base rails.

Twice a week—Clean creel boards, clean middle and back steel rolls, pick middle and back top rolls.

Three times a week—Clean backs, levers, and lever screws; clean ring rails and separators.

► **2.5s to 12.5s, 15/16 and 1-in. M**

Hourly—Run out thread guides.

Every 2 hrs.—Brush spindles and base rail.

Three times a shift—Pick top clearers.

Every shift—Clean front-roll stands, brush spindle collars, wipe out back sides, clean roving rods and guides, wipe ring rail, clean bottom of thread-guide board, pick steel rolls.

Twice a shift—Blow off frames.

Every two shifts—Pick top rolls and clearers, clean roll bars and stands.

Every doff—Strip front scavenger rolls.

Every 80 hrs.—Wipe top roving board, clean roll weights, clean back of base rail.

Overhead Cleaners

Traveling overhead cleaners are blown off once a shift in about half the mills that answered on this subject, and once a day is the schedule in the rest of the mills.

The maintenance department should be responsible for cleaning the overhead units, according to 75% of the mills. The remaining 25% have fixers do the work.

Some mills have had no trouble with fires in these cleaners. (One mill man reported that he had had traveling cleaners for 20 years, and he'd never known that they were susceptible to fires until he received the questionnaire before this meeting. One of his cleaners had a fire the next day!) Recommended practices for minimizing fires included:

Keep units and tracks clean.

Inspect the cleaner brushes weekly.

Tighten cylinder setscrews to prevent slipping.

Lubricate cylinder bearings.

Keep head-end gears from meshing too deep.

Fasten brushes to the cleaner to clean the track once a week.

Use dustproof switch boxes.

More Sides per Spinner

With pneumatic roll pickers, several Georgia mills have been able to increase spinner's sides by 10 to 160%. Sides per spinner were increased from 8 to 21 in one mill, but the average increase reported was about 20%.

The ratio of roll-picker's sides to

spinner's sides varies from 3½ to 1 to 9 to 1.

New Spindle Oils

Three mills reported on spindle oils with a detergent additive:

Mill I was able to reduce oiling frequency from once a week to once every two weeks.

Mill U has been using the new oil on 105 frames for six months and has very few stuck spindles.

Mill Y now has less gumming in the spindle blade and bolster.

Six mills reported on the frequency of changing oil in conventional spindle bases: there were two at every two years, one at every 1½ years, and three at every year.

Controlling Fly

The following suggestions were made to control flying in spinning:

Keep the draft low. High drafts from heavy roving tend to produce fly.

Use uniform staple lengths.

Use optimum drafts, twists, and speeds.

Try overhead cleaners.

Keep humidity constant.

Increase twist.

Set rolls correctly.

Keep temperature constant.

Run as low a spindle speed as possible.

Clean more frequently.

Reduce air currents.

Try Pneumafil.

Add more oil in picking.

Use a wide-gauge frame without separators.

Tolerance in Yarn Numbers

Every mill seems to have its own system for controlling yarn number. Mill L allows one-quarter of a yarn number, which for the 21s this mill spins is 1.2%. And Mill U, which spins 14s to 23s from 1-in. SLM stock, allows 1% variation. At the other end there is Mill F, which allows 4% variation in its 7s to 14s yarn spun from ⅞- and 1-in. SLM cotton. Mill FF makes 8s to 10s from ⅞-in. LM cotton and allows 3% room variation and 5% frame variation.

The methods for controlling the variation, once a standard has been set, show that the emphasis is on the processes before spinning. Very few mills said that spinning-frame changes were usual in adjusting yarn number. Some mills use beam and cloth weights as their control element, but most mills size the end from the spinning frame (or before) and make necessary changes in the card room.

Wild Yarn in Spooling

Here is a checklist of 19 items summarizing the suggestions made by 30 mills when asked: "What method do you find most effective in controlling wild yarn on the spooler?"

1. Blow off spooler regularly.
2. Clean rotary and snick-plate brushes often.
3. Blow off warpers after each creel.
4. Keep loose yarn picked out of snick plates and bobbin pockets.
5. Be sure that tail is broken off before bobbin is put in pocket.
6. See that operator straightens ends on starters.
7. Check bobbin build.
8. See that knotter ties properly.
9. Clean thread clamps thoroughly.
10. Exchange rotary brushes and clean every 2 hrs.
11. Use lowest possible drum speed.
12. Have wild-yarn shears working properly.
13. Put bunch builders on spinning frames.
14. Keep strings from behind cheese cores.
15. Keep slack tube well cleaned out.
16. Change blowers to blow into trough and pockets.
17. Tie tail down on spinning frame.
18. Keep blade sharp on knotter.
19. Keep clippers clean.

Dumping Yarn Into the Spooler

Fourteen mills commented on this subject, and the average amount of yarn lifted by one man in one shift is 6,700 lbs. One mill reported that one man lifts 10,000 lbs. per shift, and two other mills (making 3s to 21s and 10s to 29s) reported 9,000 lbs. per man per shift. Special dumping devices accounted at least in part for these figures, but the work was still classified as manual.

At the other end of the range was a mill spinning 24s that reported 32,000 lbs. lifted by one man in 120 hrs., which amounts to about 2,150 lbs. per shift.

Rewound Filling

Three of the four mills that answered the question on this subject like rewinding filling.

Mill E-1. More yards can be wound on a filling package because the package density is higher.

Mill I. The savings in doffing and battery filling will pay for the extra process of spooling. Burling costs are reduced 25%, cloth quality is improved, and there are less filling breaks at the loom.

Mill FF. Package weight has been increased 34%, bunch waste has been reduced 44%. The average job-load increase for batteryhands, quill strippers, and filling haulers has been 24%. Over-all costs have been reduced 25%.

Mill L, however, does not like rewound filling because bad bunches were increased, weaving efficiency was not changed, and the percentage of seconds was not improved.

How 18 Mills Do Their Roll Picking and Oiling

Yarn number and stock	Oiling frequency for rolls Back and middle	Front	Roll-picking frequency	Oiling and cleaning coordinated?
2s to 22s, 15/16 to 1-in.	72 hrs.	48 to 72 hrs.	144 (hrs.)	Yes
3s to 30s, 1-in.	Twice a week	Twice a week	24	Yes
3s to 23s, 5GO&M	---	---	24	No
4s to 21s, M	192 hrs.	96 hrs.	---	No
10s to 20s, 7/8 in.	Once a week	Once a week	24	Yes
10s to 29s	240 (hrs.)	144 (hrs.)	48	Yes
10s, 15/16-in. LM	120	120	60	Yes
11s, 1-in. SLM	144	96	48	Yes
11s to 42s	144	72	72	No
12s, 15/16 in.	60	60	120	No
13s to 30s	48	24	48	Yes
13s	72	72	24	Yes
14s to 39s	Twice a week	48	24	Yes
22s	---	---	48 (also 24 hrs. by hand)	No
23s, 1-in. SLM	---	69	23	Yes
24s to 31s, 1 1/16-in. M	Once a week	Twice a week	24	No
58s and 110s, Egyptian	Back, brass, once/2 wks. Middle, brass, once/18 mos.	Needle, once a year	Once a week	No
25s to 40s, SLMB&M	Once a week	Twice a week	48 hrs.	Yes

Causes and Remedies for STREAKY TRICOT FABRICS

► Tricot fabrics would be more competitive if they were knitted without the streaks most of them now have. Many streaks could be prevented by careful attention to beam speeds, creels, tensions, humidity, temperature, and knitting elements.

By **WILLIAM O. ALLEN,** Quality Control Dept., Julius Kayser & Co.

SIMILAR TRICOT FABRICS, knitted of the same denier yarn, of approximately the same machine yield, and of nearly the same knitting construction, often show entirely different effects as far as the face appearance is concerned.

One factor that detracts from satisfactory face appearance is streakiness. The cause of a streaky appearance in tricot fabrics is not limited to one major factor but is a combination of various items, each of which can be equally important.

Perhaps the one most important factor in the formation of streak-free fabrics is tensions. It is easy to see that varying tensions throughout all the ends on the knitting machine will cause the formation of different stitches on different wales. These stitches, some loose and some tight, will cause the face appearance of the fabric to be very streaky and nonuniform.

Yarn Variations Make Streaks

The finished fabric can be no better than the raw materials that go into the formation of the fabric. Variations or nonuniformity of the yarns that are to be put on the creels must be considered.

From time to time most mills have encountered denier variations, which show up in the fabric as appearing and disappearing light and heavy ends. It is often impossible to correct this condition during knitting, as an end will knit for a period of time as a light end and will then correct itself. Another end might knit for a while as a heavy end and then correct itself.

These appearing and disappearing light and heavy ends make for an extremely streaky appearance after the goods have been finished.

Size or Oil Variations Cause Streaks

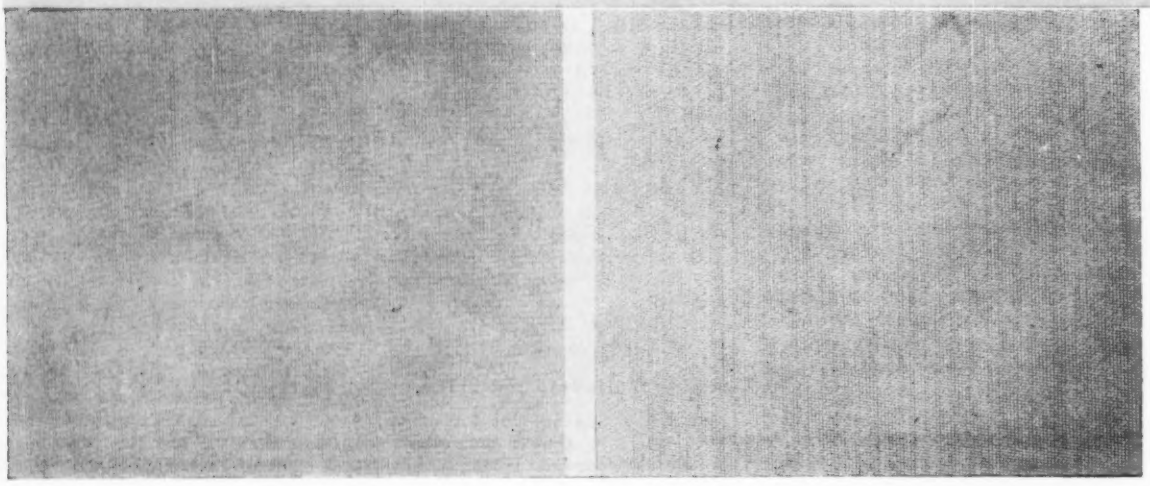
Much of the skill in making superior tricot fabrics can be attributed to the selection of a quality-minded thrower. One of the chief causes of streaky fabrics is light and heavy ends that are often due to insufficient quality control by the thrower. Quite frequently, light and heavy ends are found to be mixtures of different deniers in a lot shipped to a plant by a thrower.

The thrower is also responsible for applying consistent and even treatments. Variations in the size or oil content will certainly cause different tensions on the creel and will cause different stitch formations during knitting.

It is necessary that the quality of the thrown yarn remain high so that as few stops as possible are experienced in warping. Excessive stoppage on the warper will cause some change of tension at the point of the stop and will, in turn, have an effect upon the appearance of the fabric after knitting.

STREAK-FREE FABRIC can be produced only with well-maintained knitting elements.

THE DARK LINES in this fabric were caused by uneven tension on the yarn during warping.



Good Yarn Cone Is Essential

One of the most important aspects of good throwing is the formation of a proper cone. The yarn must come from the cone free and easy, but it must not come off so easy that it sloughs off. Sloughing will cause the yarn to tangle and form waste knots. These waste knots may be small; and instead of breaking at the tensions, they may simply tend to hang and cause the thread to be tight at this point in the wrap. Streaks in the fabric can result.

It is equally important that all the cones pull off in the same manner so that the tension devices can exert the same tensions on all of them.

The throwster package should be firm, with the proper taper, and should have an even and undisturbed wind. The perfection of the package will determine to a large measure just how even the tensions will be at the warper head.

Creels Need Maintenance

There are several different types of creels and many types of different tensions being used by tricot knitters today. The particular type of creel, tension, or warper head used by any one plant is dependent upon that plant's past experience and upon what fiber and yarn will be processed.

No one type of creel or tension is best for all yarns and deniers, but most creels can be adapted and satisfactory tensions obtained for the particular type of yarn that is being run. The know-how of a particular mill is the primary factor in having a proper creel set up to obtain the lowest and most uniform tension.

Proper creeling procedures should include an adequate maintenance and cleaning program. If size deposits build up on the tension devices being used, the devices cannot control the tensions. Since the size buildup or deposit may be different on each tension, the tensions can vary accordingly.

Warp Shades Made by Faulty Beaming

Regardless of the type of warp head that a mill might be using, satisfactory beams can be made if the tensions are even at the point of contact with the beam. The warper operator should take care to see that all ends are spread evenly on the beams and that they do not bunch together.

The yarn next to the ends of the beam should not ride up on the flanges and should not fall off into too much of a recess; such conditions can cause pulling on the flanges or slackness next to the flanges. This uneven condition of the yarn tends to form warp shades, sometimes called bobbin marks. The resulting fabric appears light for the distance of one bobbin and then heavy for the distance of another bobbin.

It is generally accepted that yarn should be warped with just enough tension to hold up the stop motion. It is good to observe this practice, since the ranges of the tensions are not as great as when the average tension is high.

There is some speculation as to the proper speeds to be used at the warper head. The higher the speed of the warper, the greater the tension becomes; but the increase of tension is by no means proportionate.

Because of production requirements, some mills cannot warp at low speeds. The important thing to bear in mind is not so much the low tensions as the warping of even tensions. If a mill can warp at high speeds and maintain even tensions, even though the tensions must be high also, it should be able to produce as satisfactory fabrics as a mill that warps at lower tensions.

The tension should not, however, be so high as to cause the high elastic recovery of some yarns to crush or damage the bobbins.

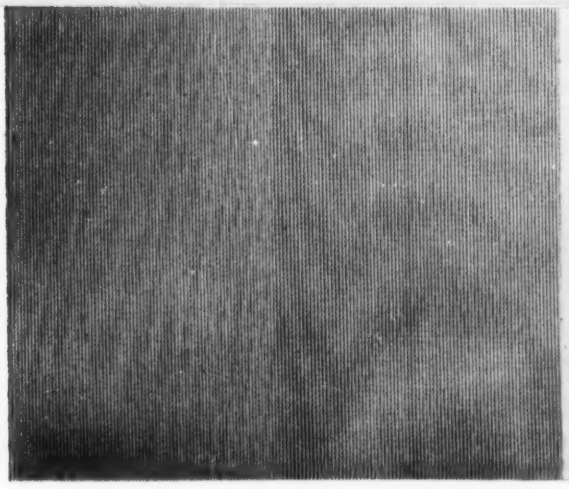
Correct Conditioning Is Often Ignored

Humidity and temperature often determine the amount of size that a yarn sheds, and size shedding is a cause of clogged tension devices. Changes of humidity from one part of the creel to another and from the creel to the warper head will cause the character of the yarn to change in varying degrees from one thread to another. Accordingly, the tensions change also.

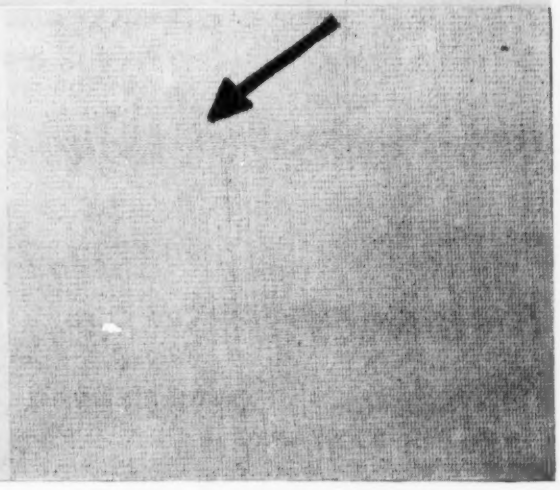
Clogging of the tension devices is generally the result of high humidities,

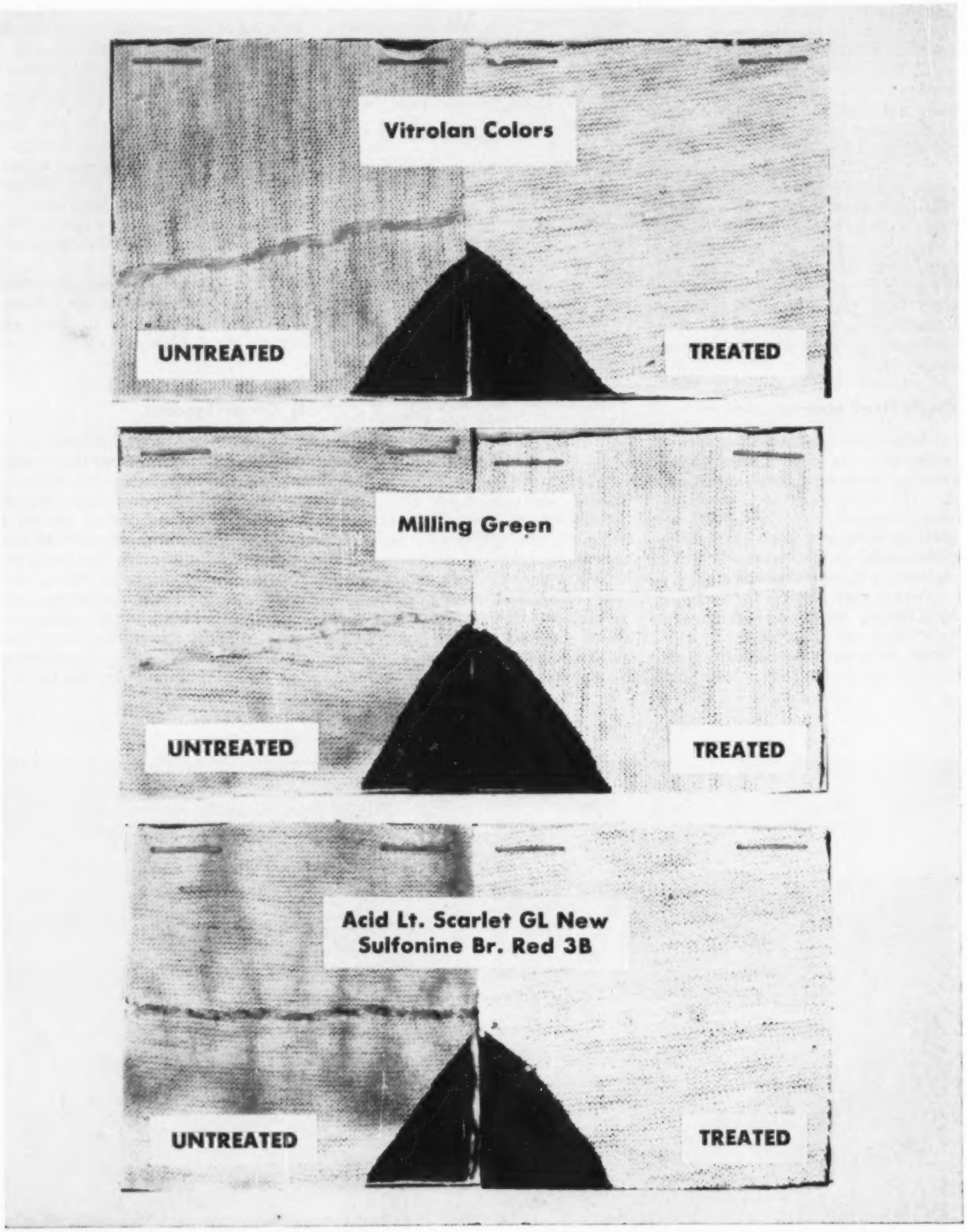
(*Continued on page 208*)

WARP SHADES or bobbin marks are caused by yarns pulling on the flanges of the beams.



BEAM SHADES appear as horizontal lines in the fabric and are caused by faulty let-off motions.





AIR-DRIED SAMPLES look like this after 15 minutes washing at 120° F. The white knit material is Orlon. The samples at right were after-treated with Chromofix.

For Washable Woolens— Make Your COLORS WASHABLE

▶ Chromofix, an organic chrome complex easily applied to carefully selected dyes, is said to improve fastness of woolens to washing, fulling, and perspiration.

By GEORGE M. MOISSON
Assistant Editor, TEXTILE WORLD

A NEED FOR WASHABLE COLORS has arisen out of the increasing use of shrinkage-control processes on wool fabrics.

Some of the commonly used dyes are sufficiently fast to washing for use without aftertreatment, but only an extremely narrow range of shades can be obtained with such colors.

To enlarge the range of shades and make available some bright, heavy shades for shirting, socks, and suitings, Sandoz Chemical Works, Inc., has developed a product called Chromofix B.

Garments that are washed in commercial establishments and then dried at high temperatures in a minimum of time may not show any staining of the adjacent white areas. However, if these same garments are washed either in a machine or by hand and then hung to dry in the air, migration of the color is particularly bad where dyed wool is adjacent to undyed Orlon, nylon, or Dacron. The hydrophobic fibers dry more quickly and tend to draw moisture and color from the dyed wool by capillary action.

What Chromofix Does

The new product has been in use for a short time in several of the dyehouses that are treating woolens with shrinkage-control processes. Several mill-dyed samples are shown on the opposite page before and after being treated. The samples were hand-squeezed and allowed to dry. Migration is pronounced on the untreated goods.

No detrimental influence has been found on lightfastness of the treated colors; however, there is a considerable shade change on some colors. Another effect caused by Chromofix, which might be considered beneficial, is that treated wool has less tendency to felt.

Here's How It Upgrades Dyes

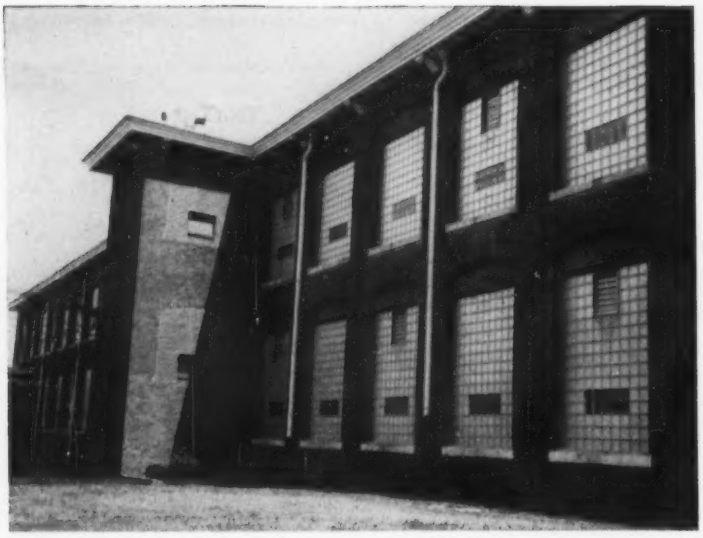
The soluble chromium salts in Chromofix are stable until exposed to heat in aqueous solution. Under the effect of heat, the salts combine with the dyestuff molecules attached to the fiber. The resulting larger dyestuff molecule is thus rendered less soluble and much faster to wet processing as shown in the tests (opposite page).

A number of dyestuffs were tested on wool, with and without Chromofix, and compared. The dyes were representative of the most popular types available from most dyestuffs manufacturers.

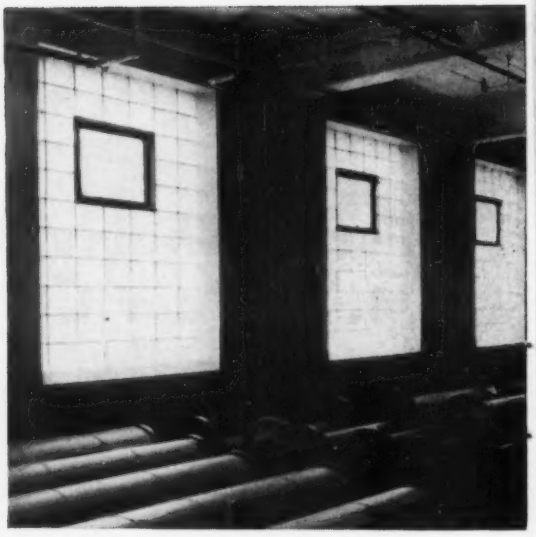
The method of treatment is simple. After dyeing and rinsing, the goods are treated with 3 to 5 lbs. of Chromofix B per 100 gals. of water. The previously dissolved Chromofix is added to the cold bath and temperature is raised over 20 mins. to 175° F. and maintained at 175 to 180° F. for 10 mins. The bath is then dropped; goods are rinsed and dried in the normal manner.

A list of the tested dyes follows. Shade change and improvement in fastness to washing and to milling are noted.

Dyestuff	Effect on Shade	Improvement	
		wash-fastness	milling fastness
Xylene Milling Red B	duller	1 point	1 point
Acid Milling Red R	duller	2 points	2 points
Sulphonine Red 3B	slightly duller	1 point	2 points
Sulphonine Brilliant Red BG	slightly duller	2 points	2 points
Sulphonine Brilliant Red 6B	slightly duller	1 point	1 point
Sulphonine Scarlet GWL	duller	already good	1 point
Acid Lt. Scarlet GL	duller	1 point	2 points
Sulphonine Red G	duller	already good	2 points
Sulphonine Red RS	duller	approx. 1 pt.	2 points
Xylene Fast Violet R	little change	2 points	1 point
Fast Sulphon Violet 5BS	little change	1 point	1 point
Acid Violet 4BNS	little change	1 point	1 point
Acid Violet ACS	little change	1 point	1 point
Xylene Fast Blue GL	—	2 points	1 point
Xylene Fast Blue FF	—	2 points	1 point
Brilliant Alizarine Milling Blue G	—	already good	1 point
Brilliant Alizarine Milling Blue BL	—	1-2 points	1 point
Sulphone Acid Blue R	—	1-2 points	1 point
Sulphonine Blue 5R extra	—	1 point	1 point
Brilliant Alizarine Milling Blue F2GL	—	1 point	1 point
Brilliant Alizarine Milling Blue FGL	—	1 point	1 point
Xylene Fast Green B	—	1-2 points	1 point
Xylene Fast Green 6B	—	1-2 points	1 point
Alizarine Milling Green B	—	already good	1 point
Alizarine Light Green GS	—	approx. 2 pts.	1 point
Alizarine Light Green BT	—	approx. 2 pts.	1 point
Sulphonine Red Brown V	—	1-2 points	1 point
Alizarine Light Brown BL	—	1-2 points	1 point
Alizarine Light Grey RLL	little change	1 point	1 point



TWO BOILERS were required to maintain the necessary 80° F. temperature in this mill before the glass blocks were installed. Now only one boiler is used, and this boiler is fired up only on Monday morning to get the temperature up after the week end. The heat generated by the equipment now maintains the required temperature.



A SINGLE PANEL is used in parts of this new mill where the humidity and temperature conditions are not severe. The ventilators in the panels are glazed Twindow units. The single panel of glass blocks

GLASS INSULATION—How Mills

GLASS BLOCKS used in this weave room have internal fibrous-glass diffusing screens that increase the insulating value by dividing the blocks into a double section and give better diffusion of daylight coming into the weave room. The room has ventilators built into the wall rather than in the glass-block panels.

▶Old mills close up windows and build linings to uninsulated walls. New mills are constructed with insulation that prevents the troubles old mills are correcting. Here are a few of the installations.

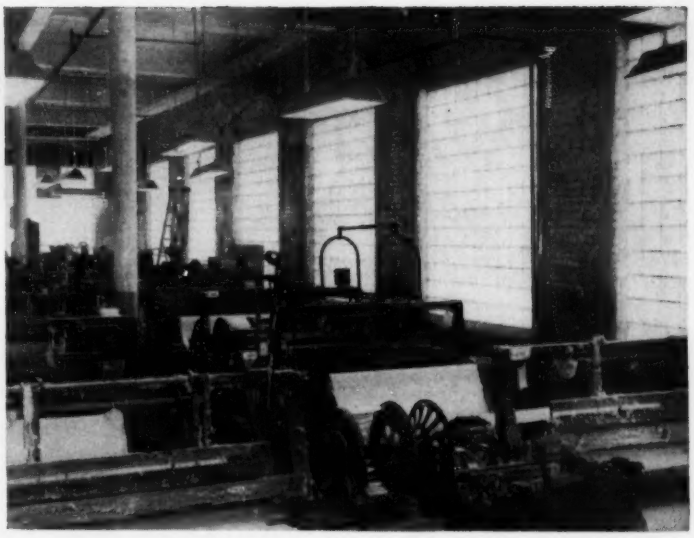
NOT ALL MILL MEN know much about the coefficient of heat loss, but they all know that fluctuating temperatures in the weave room and spinning room affect quality and production. Many mills have already closed in their windows or are planning to do the job soon. Bricks have long been the favorite material for closing in windows, but much interest is being shown in glass insulating materials such as cellular-glass insulation and glass blocks.

Glass blocks transmit light as well as insulate, and clear glass blocks can be set in a panel to give an outside view.

Cellular-glass insulation is being used to close up windows, as a middle section in sandwich walls, and as a lining for old, uninsulated walls.

For example, an uninsulated wall

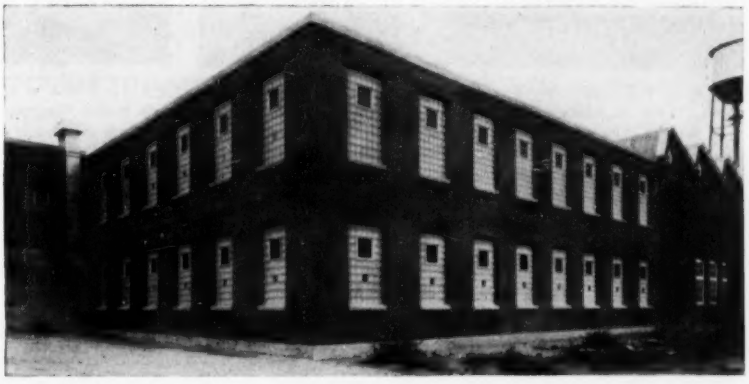
has the same insulating value as an 8-in. brick wall. This insulating value is more than double that of pane windows. Ventilators built into the panels eliminate the need for more wall openings.



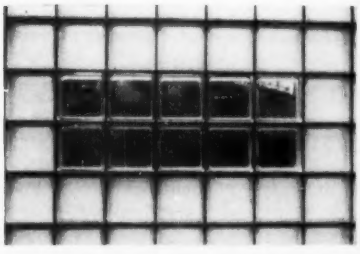
INJURIES TO WORKERS from flying glass have been reduced since glass-block panels were installed. Only three blocks in two years have been broken, and these three were all broken by flying shuttles. The old glass panes broke at the rate of about one per month. The glass blocks also kill the glare. Quality and production are up.

Are Using It

at a full-fashioned hosiery mill caused a cold spot that reduced the temperature of the machines adjacent to the wall. The machines were supposed to operate at 80° F., and the reduced temperature affected their operation. A lining of Foamglas, a cellular-glass insulation, was applied to the inside of the wall. This insulation eliminated the cold spot, and the machines began to operate without trouble.



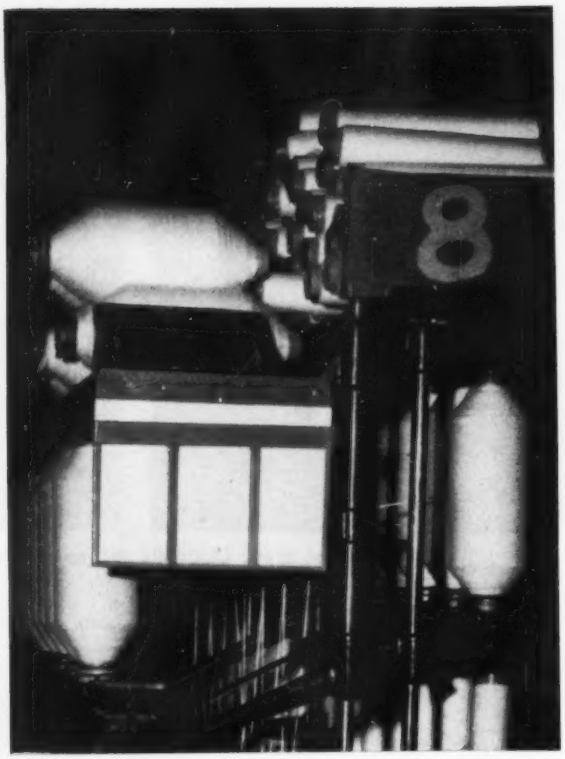
GLASS BLOCKS replaced the worn window sash at this mill. Condensate from the old windows ran down into low spots and as much as 1 in. of water would collect. As a temporary measure to correct this accident hazard, dirt was spread over the area. The mixture of dirt and water resulted in a mass of mud. The glass blocks eliminated this problem.



PEEPHOLES can be made at any level with clear blocks in the panels. Any number of blocks can be used. This mill prefers a big peephole made of 10 blocks; other mills prefer a one-block peephole. The clear blocks allow an external view and prevent phobias of being closed in. Some mills still prefer to close in the entire window area.

THIS MILL is built with an inner wall of 12-in. concrete, a section of Foamglas against the inner wall, and a brick veneer with an air space between the Foamglas and the brick. Wall ties secure the sections. Any moisture that penetrates the brick veneer runs down the inside and out through weep holes.

THE WASTE RECORD for the past month is posted on this bulletin board. Each employee is listed on the record with the total waste from his job. Pictures of the card-room section hands are posted because the card room had the best record for that month.



WASTE CARD is kept for each operator. The timekeeper weighs and marks the amount of waste every shift. Below-standard figures are marked in black, above-standard in red. The second hand marks the condition of the job on the back of the card.

A Simple Plan REDUCED WASTE at

▶ Waste at this plant was reduced by setting individual standards—25% lower than the previous year's waste. Each operator's waste is posted every day. The program reflects the working attitude at Sycamore, and the standards are consistently beaten.

By THOMAS B. WINSTON, Assistant Editor, TEXTILE WORLD

AVONDALE'S SYCAMORE PLANT, Sycamore, Ala., has a waste program that puts waste reduction where it belongs—squarely on the shoulders of each operator. The program is based on the simple-sounding idea that the best way to reduce waste is to let each operator reduce his own waste.

When the program was started, Homer White, superintendent, knew how much waste had been taken from each department. What he wanted was a standard, not for each department, but for each operator. The only way to set a standard was to use the actual figures he had; he could see no value in using theoretical efficiency calculations. He knew how many people worked in each department, and he could figure a standard by dividing the department poundage by the operators in the department.

But what he really wanted to do was to reduce waste. So he set the

Waste Standards at Sycamore (per operator, per 8-hr. shift)	
PICKERS	six setbacks for seven pickers
CARDS	22½ lbs. (front and back waste for 44 cards at 11 lbs. per hr.)
DRAWING FRAMES	10 lbs. for 10 four-delivery frames at 75 yds. per min., 87% efficiency
COMBERS	10 lbs. for eight combers, at 30 lbs. per hr.
SLUBBERS	1½ lbs. of front and back waste for three 10X5 frames
SPEEDERS	4½ lbs. for three 8X3½ fly frames
SPINNING FRAMES	5 lbs. for 1008 spindles on 14s to 20s
WINDERS	4½ oz. for 60 spindles

Sycamore Spinning Plant

standard 25% lower than the waste poundage for the previous year. If the standard was met, the reduction would automatically be 25%.

Next came the problem of getting the operators to meet the standard. If an operator was going to work against a standard, Mr. White figured the operator had to know how he was doing. So the operator's record was put where he could see it and be constantly reminded of it.

How the System Works

Each operator has a card for his waste production. The timekeeper weighs and marks the waste for each operator every shift. Figures at or below the standard for his job are marked in black, and figures above the standard are marked in red. An operator can tell how he is doing by the frequency of the red numbers.

The cards have columns for four weeks. At the end of each week, the weekly totals are put at the bottom of each column; at the end of each month, the monthly totals are put on a monthly record kept on a bulletin board in each building. The bulletin board also has a place for the pictures of the second hands of the department that makes the best waste record for the month. Waste reduction has become a part of the atmosphere at Sycamore.

How does the system work? After two years, the standards are consistently beaten. A recent four-month period shows how consistently:

Card room: 26% below, 25% below, 29% below, 33% below

Spinning room: 8% below, 20% below, 20% below, 26% below

Winding room: 10% below, 18% below, 9% below, 6% below.

Remember that these figures are percentages below a standard that is 25% below the actual waste poundage for a year. A card room that averages 25% below a 25%-reduced standard is doing pretty well; that is, each operator in that card room is doing pretty well.

The system that reduced waste at Sycamore is not a closed system that operates on its own. An operator at Sycamore competes against his own performance.

Two ideas that helped Sycamore in its waste-reduction program were to put responsibility where it belongs and to give the operators information to work with.

A job check at the end of each shift puts responsibility where it belongs. The second hand makes an inspection of his department and checks the condition of each job as left by the operator. The back of the waste-control card has a space for his daily mark. If the job was left in good shape for the next operator, he writes "OK" or makes a check mark.

The cleaning duties are posted in each department; so there is no question about how the job should be left. If a fly-frame operator on piece work should try to put off bad production on a stuck job, the second hand can check the inspection mark on the back of the previous operator's card. There's no buck-passing with this system.

Bulletin Boards Help Program

The winding room has a large bulletin board that shows a graph of each operator's bad packages. One color shows the number of packages returned from the inspection room, and another color shows rejects returned from the user. A package returned from the inspection room is not marked if the operator rewinds it, but all rejects from the customer are marked. This quality control in the winding room works on the same principle that reduced waste: an operator who takes pride in his work will try to make a good record, and a record that shows improvement or is continuously good increases the operator's pride in his performance.

New SLASHER Equipment Shows Definite Improvements

▶ **Here are answers to some slasher-room equipment problems given by slasher-room foremen at the Alabama Textile Operating Executives spring meeting at Auburn. Improvements shown as a result of new equipment are—**

- **One homogenizer pays for itself and saves $3,620.85 in 26 months**
- **A silo used to store bulk starch saves $0.92 per hundred pounds**
- **Multimotor drives increase the production of four slashers 20%**
- **Rubber-covered tension rolls do not bounce at high speeds**

MOST SLASHER-ROOM FOREMEN agree that homogenizer-equipped slashers permit them to use pearl starch to replace thin-boiling starch, but they often disagree as to the results they get from warps sized with pearl starch.

They also disagree as to how long homogenized size can safely stay in the size box and what steam pressure should be run on the homogenizer for best results.

A Homogenizer Saves One Mill $139 per Month

Seven slasher-room foremen give their experiences on these subjects:

Mill A—"We have processed a million and a half pounds of pearl starch with a Gaulin homogenizer during the last 26 months. The homogenizer originally cost $4,576. Repairs to the homogenizer have cost $304 to give us a total investment of $4,880.

"During this period, the starch savings totaled $8,500; so the over-all savings were $3,620. In addition, we have the machine, which we consider practically as good as new.

"The size-penetration and -shedding qualities of the warps sized with the pearl starch are equal to those of warps sized with thin-boiling starch without homogenizers.

"Weaving results, too, are about the same.

"We use homogenized size immediately without letting it set. We store finished size on week ends for 24 hrs. Size left as long as 48 hrs. causes trouble.

"We get the best results when size is prepared in the homogenizer at 1,600 psi-ga. Experiments have been run on pressures from 1,500 to 2,200 psi-ga. About 1% more size is added to warps at 1,600 psi-ga. than at 2,200 psi-ga."

Mill B—"We have Hydropulse homogenizers that have been in operation more than a year.

"Our tests show that yarn penetration is about the same as that of warps slashed with size not homogenized.

"We do have less shedding of the warps, however, since the homogenizers were installed. The quality of the warps is also improved.

"We have had some maintenance repairs on the machine, but these costs have been substantially reduced since we installed a new-type gasket several weeks ago.

"We keep the homogenized size in the storage kettle for 20 to 30 mins. at 200° F. before we use it.

"We ran 1,500-psi-ga. pressure on the homogenizer for several months, but we are now getting better results from 1,700 psi-ga."

▶ **New officers elected for the coming year for the Alabama Textile Operating Executives were:**

Harold M. Clark, Pell City, general chairman

Grady Webb, Langdale, vice-general chairman

Cleveland L. Adams, Auburn, secretary and treasurer

H. S. Price, Opp, was elected to the executive committee.

Homogenized Size Lets Ends Separate Easily at Split Rods

Mill C—"The cost, size penetration, shedding, and quality of warps in weaving are about the same on warps prepared with homogenized size (ours is a Gaulin) as warps formerly prepared with ordinary cooked size.

"Since we have used homogenizers for only a short time, we do not have any comparative maintenance costs.

"We never keep size in storage kettles more than 3 hrs. before we use it.

"We run 2,000 psi-ga. pressure on our homogenizer."

Mill D—"We get the same general results with pearl starch homogenized with a Gaulin machine that we formerly got with thin-boiling starch cooked in kettles and not homogenized.

"We begin using size as soon as it goes to the storage kettles.

"We use 2,000 psi-ga. pressure on the homogenizers.

"Machine-maintenance costs are low."

Mill E—"Our Hydropulse unit gives us a substantial reduction in steam costs coupled with the savings we receive from using cheaper (pearl) starch.

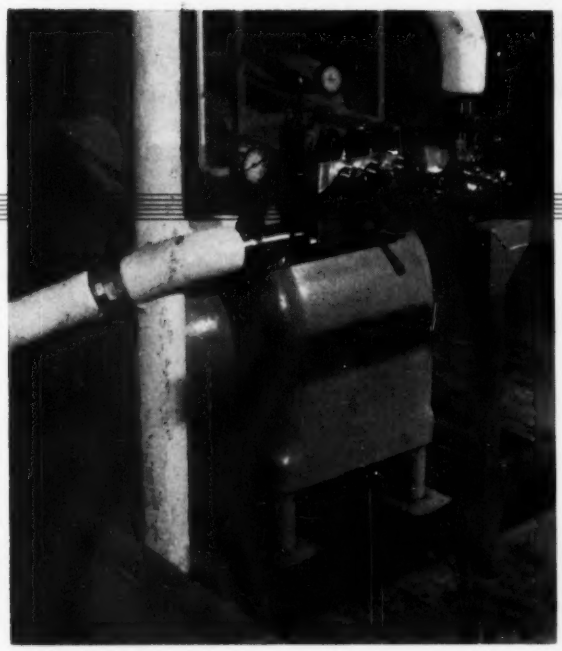
"We haven't made any tests on size penetration, but we do have a noticeable decrease in shedding at the slasher. There seems to be no difference in shedding at the loom.

"The quality of the warps is improved because the homogenized size allows the yarn to separate easily at the split rods on the slasher. With these improved conditions, we have fewer broken ends and fewer ends out of place on the loom beams. However, we have not been able to attribute a direct increase in weave-room efficiency to the homogenizer.

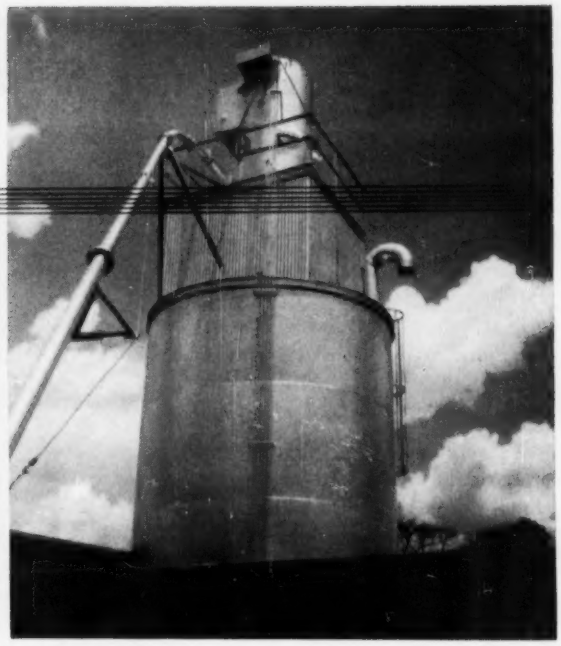
"We expect the maintenance costs to be a little greater than those of cooking kettles, but we do not think the costs will be prohibitive.

"So far, we are pleased with the results from our installation.

"We have never tried to see how long homogenized size can be held in storage kettles before it is used. We keep only enough size in storage



HOMOGENIZER pressures of 1,500 to 2,000 psi-ga. give best results, Alabama mill men report.



THE STORAGE TANK of the starch-handling system used by Mill A holds 128,000 lbs. of pellet-type bulk starch.

kettles for our normal operations and we do not hold any over the week end.

"A pressure of 1,500 psi-ga. on our homogenizer seems to be best for our constructions of cloth. Pressures of over 1,500 psi-ga. can also be used satisfactorily."

Regular Maintenance Check-ups Keep Homogenizer Repairs Low

Mill F—"Our 200-gal. Gaulin homogenizers save us 8% on starch costs (based on the present price of corn starch) because we use pearl starch to replace the thin-boiling starch formerly used.

"We also have a small saving in steam.

"Homogenized size is used immediately after it is prepared.

"Pressures of 2,000 psi-ga. are held at the homogenizer."

Mill G—"We find no difference in the size penetration, shedding, and the quality of warps slashed with homogenized size when they're compared to warps slashed with older processes. Cost savings result from the starch used, though.

"Regular check-up and preventive-maintenance practices help us keep our homogenizer-maintenance costs low.

"Our maximum holding time for homogenized size is 48 hrs.

"We run 2,000 psi-ga. pressure on our machines."

Have You Thought About Using Pellet-Type Starch?

Just as pearl starch has replaced thin-boiling starch in many cases by the addition of homogenizers to the slashing system, the trend in starches to be used now seems to be moving toward bulk starch of the pellet type. Only one report from a mill using bulk starch was given, but at least one other mill is using this type of starch.

Mill A reported—"We have installed a tank that stores approximately 128,000 lbs. of bulk starch. The tank is on the outside of the mill and is located about 300 ft. from the slasher room. We have a smaller storage tank in the slasher room that holds 4,000 lbs. of starch.

"The starch used is the pellet type. The bags of starch formerly used cost $7.96 each. A hundred pounds of pellet-type starch costs $7.02.

"Starch is delivered to the mill in two-compartment railway cars that hold 58,000 to 62,000 lbs. per car. We use about 100,000 lbs. of starch, almost two cars, per month.

"The cars have three coats of special paint on the inside to prevent the starch from sticking to the car surface. The cars empty completely and leave the surface clean. No condensation to wet the starch is apparent.

One Man Unloads a Carload Of Bulk Starch in 4½ Hrs.

"The cars have eight openings at the top, each sealed with a rubber gasket to keep out foreign matter. When a car is to be emptied, the tops of the openings are lifted up.

"Each of the compartments of the car has an opening in the center of the bottom. To empty a car, a skid base containing a twin-nozzle arrangement for hopper-car unloading is slid along the railway tracks underneath the car. Flexible canvas connections are clamped to one of the openings at the bottom of the car, and a flexible hose fastened to the canvas connections leads to the large storage tank.

"A vacuum pump (similar to a card-stripper pump) forces the starch out of the railway car into the storage tank. When one compartment of the tank is emptied, the flexible canvas connections are shifted to the other compartment to empty the other side. It requires only 7 or 8 mins. to shift the canvas connections to the other compartment.

"One man can unload a carload of bulk starch in 4½ hrs. with the vacuum system.

"When we used hand trucks to unload cars of bagged starch, the job required 10 men for a 4-hr. period.

"After a car of starch is unloaded, we get a little dust at the 4,000-lb. storage tank for about 4 hrs. After that, we aren't bothered with dust.

"About 15 mins. is required to fill the 4,000-lb. tank with starch. The

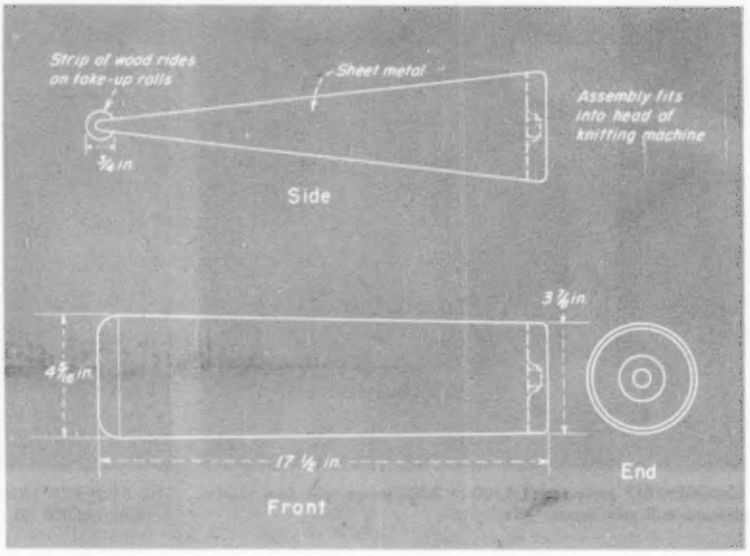
(*Continued on page* 182)

Questions and Answers on Q.M.'s Device for Reducing SHRINKAGE

• The knitting-machine attachment described by the Office of The Quartermaster General [TW, Feb., '52, p. 143] applies only to tubular knitting for underwear and outerwear fabrics. The device changes the shape of the loops and reduces the length of the fabric on the machine.

• Answers given here to questions often raised will help knitters understand better the possibilities and limitations of the attachment.

By LOUIS I. WEINER
Office of The Quartermaster General



KNITTING-MACHINE ATTACHMENT for reducing shrinkage is inserted in the fabric tube with the circular portion up.

THE ATTACHMENT DESIGNED to reduce shrinkage in knit fabrics that was described in TEXTILE WORLD, Feb., 1952, page 143, has caused considerable discussion among knitters. Some of the most widely raised questions are answered here.

Loop Shape Is Changed

Q. Does the attachment permanently change the shape of the loop?
A. Yes. Tubular-knit goods, as conventionally manufactured, suffer a marked reduction in length and a corresponding increase in width when laundered. Such fabrics, when made into a polo shirt, for example, will exhibit a baggy appearance after laundering because of the increase in width. The fabric will also be shorter than before laundering.

If the device is used, the loops of a new fabric are brought to a shape similar to that of the loops of the usual laundered fabric, and the tendency toward shrinking is offset to a marked degree. In common with other preshrinking procedures, this device reduces the length of the fabric beforehand so that shrinkage will not take place in laundering by the consumer.

Smaller Machines Can Be Used

Q. How much longer must fabric be knitted to replace the "40% loss in length," and how much will that cost in materials and time?
A. Less fabric in terms of length will be produced, and as a result it will be possible to use machines of narrower diameter than must ordinarily be used to secure a given width of fabric.

With respect to the matter of cost, the situation is analogous to the Sanforized process. If a fabric shrinks 10% and consumer shrinkage is limited to 1%, the producer must preshrink 9% and take this loss in yardage. The situation with knit goods is almost comparable.

Best for Cut Goods

Q. Why were the tests made on a machine that had no sinkers and was therefore unable to knit hosiery?
A. Although the device could possibly be adapted for sock manufacture, it should find its widest application in the manufacture of items such as underwear, sweaters, or mufflers, which are cut from fabric knitted in the form of straight tubes. The word "sock" was used in the text of last year's article to describe the tube of knit fabric descending from the needles.

The device is inserted into the tube before the free end is placed through the take-up rolls in the usual fashion. A 6-in. machine was used to simplify our initial engineering work. The development will be more applicable to machines of much wider diameter. No attempt has been made to adapt this development to hosiery.

Proper Needle Load Is Problem

Q. Because a uniform load upon individual needles is best, is the variation of load less with the attachment? In theory, a uniform load can be obtained only with all the fabric passing through the fluted rolls on the center line across the needle cylinder. With the center of the rolls 12 ins. below the stitches on the needles, the hypotenuse of the fabric is 12.206 ins. plus. As the fabric is spread toward the ends of the rolls, the distance to the needles is less at each side of the fabric.

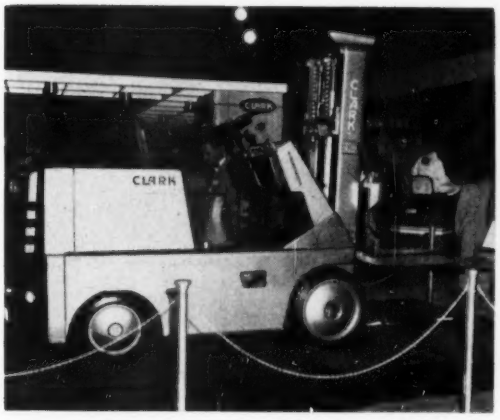
A narrow contrasting-color stripe could be knitted down to the take-up rolls to determine where the stitches are pulled the most. Two experiments could be done—one with the attachment and one without it.
A. The question concerning the uniformity of loading of the individual needles is an interesting one, but we do not have an answer for it. No difficulty was encountered in experimental knitting in the laboratory, and we assumed that the loading of the needles was proper. The wale and course count were sufficiently consistent throughout the fabric to indicate that the forces built up were not severe enough to distort the fabric.

(*Continued on page 200*)

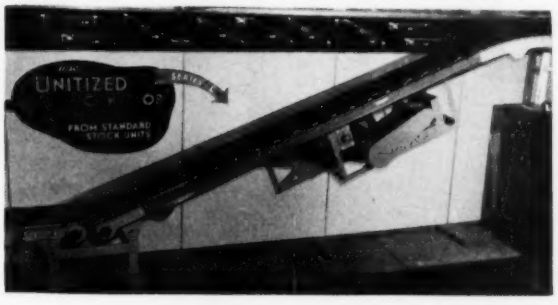
TEXTILE WORLD
presents--

Ideas
from the
MATERIALS-HANDLING SHOW

► Here are the textile highlights of the 5th Materials Handling Show, which was held in Philadelphia late in May. The show, sponsored by the Materials Handling Institute, was the biggest and the best of its kind to date: 27,000 visitors, 341 exhibitors.



THIS EXPERIMENTAL FORK TRUCK, Model X-70, was shown by Clark Equipment Co., Industrial Truck Div., Battle Creek, Mich., to get the reactions to possible features that can be built into fork trucks. The model is not expected to be put in production, but its features that meet industry approval will be incorporated into standard equipment. Some of the features: fork-height gauge, load gauge and overload signal, controls in front of operator, off-floor pedals, loading lights that follow the load, full-width adjustable seat, counterbalanced hood, and hour meter.



► A 1,000-lb. air-operated hoist was introduced by Aro Equipment Corp., Bryan, Ohio. The 28½-lb. hoist can lift its capacity at 40 ft. per min. and has an accurate throttle-type speed control.

STANDARD CONVEYOR UNITS shown by Conveyor Specialty Co., Inc., 33 Newport Ave., North Quincy, Mass., can be assembled to suit your needs; and you can then have a custom installation for much less than it would ordinarily cost. Drives, take-ups, frames, vertical curves, and horizontal loading units are available in a wide range of speeds and widths.

Ideas from the MATERIALS-HANDLING SHOW

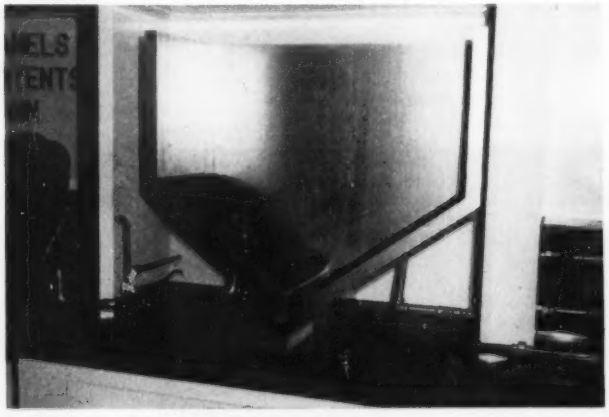
CAN YOU USE A RUBBER DOOR? Trucks can drive right through them without damage. Fingers can't be caught between them. No door-opening mechanisms are needed. Vision panels, also unbreakable, can be arranged to suit your specifications. The door was shown by Stic-Klip Mfg. Co., 50 Regent St., Cambridge 40, Mass.

► A magnesium hand truck that weighs only 19 lbs. and can carry loads of 450 lbs. and more was shown by Magline, Inc., Pinconning, Mich.

► Overhead roller conveyors; two-level portable belt conveyors 12 and 16 ins. wide and 10, 15, and 19 ft. long; and Wheel-It hand trucks—all of improved design—were shown by E. W. Buschman Co., Clifton and Spring Grove Aves., Cincinnati 32, Ohio.

NO MORE HAND SCRAPING is necessary if you have one of these tools made by G. H. Tennant Co., 2530 N. 2nd St., Minneapolis 11, Minn. The scraper, which can be powered electrically or pneumatically, can be used for spot cleaning or for areas under machines where larger scrapers won't fit. Steel cutters or wire brushes can be used on either model. The electric one costs $195; the pneumatic, $245.

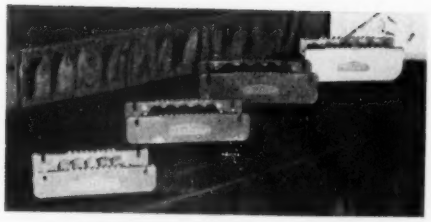
► The Rite-Hite unit dock, as exhibited by Loomis Machine Co., Fourth and Pine Sts., Clare, Mich., was a self-contained auxiliary dock that can be installed in front of permanent docks or can be recessed in the dock area at a minimum of installation expense. Manually operated, the unit compensates for the variation between truck and dock heights.



PULSATING PANELS in the V-sections of a bin are alternately inflated and deflated to move materials by positive displacement and eliminate bin stoppages. The arrangement, called Pneubin, was shown by Gerotor May Corp., Baltimore 3, Md. All kinds of bins and hoppers can be equipped with the panels.

STACKING PALLETS were shown by several companies. This one, by Elizabeth Iron Works, Box 360, Elizabeth B, N. J., is all steel and has a collapsible stacking attachment built in. The same company also makes a conversion kit to make wooden pallets stack. Other stacking pallets were shown by Stak-Mor Sales Co., 1931 Oliver St., St. Louis, Mo.

► A dockboard that adjusts itself automatically to the truck bed without power was shown by Dockboards, Inc., 316 E. Silver Spring Dr., Milwaukee 11, Wis. The truck hits an extended operating lever as it backs up and lowers the board to the truck bed.



MOVING HEAVY MACHINERY? These new roller skids lay their own track like a Sherman tank and can support 3,200 times their own weight. These skids are said to be enough to support any size or shape of machine. Wooden skids don't have to be put under the machines. The skids, called Multiton, were shown by Stokvis Edera & Co., Inc., 95 Madison Ave., New York 16, N. Y.

► Mico-No-Stuk, a device designed to overcome fork-truck rear-wheel spin so that the other wheel can free the vehicle from mud, snow, or ice, was shown by Yale & Towne Mfg. Co., Roosevelt Blvd., Philadelphia, Pa. Operating directly on the braking system of the truck, it is independent of the differential and operates through a toggle switch that locks either brake independently of the other.

Electric Lifter Is for Stacking and Unloading

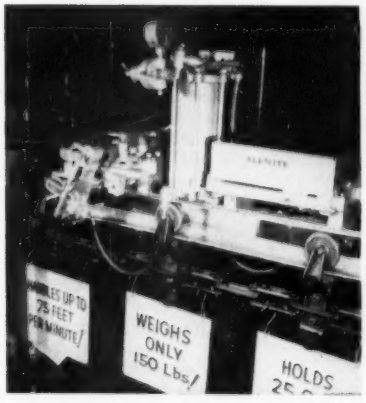
A new hydraulic lifter that can be pushed around and then used to unload or stack heavy or bulky equipment by electric power was shown by Economy Engineering Co., 4511 W. Lake St., Chicago 24, Ill. Capacity is 75 lbs., and the new model, X-1, lowers to within 5¼ ins. of the floor. Lift height is 5 ft., and the unit has a built-in battery charger.

The hydraulic unit is powered by a 12-v. d.c. motor that gets power from two heavy-duty automobile batteries. The batteries can be charged by plugging the charger line into a 100-v. a.c. outlet.

Rotating Wide-Spread Clamp Is for Handling Bales

A truck attachment for handling bales vertically or horizontally was shown by Clark Equipment Co., Industrial Truck Div., Battle Creek, Mich. Standard cotton-bale arms are permanently attached to the clamp mechanism, but the mechanism can be detached by removing two bolts. The choice of vertical or horizontal stacking provides flexibility in warehousing.

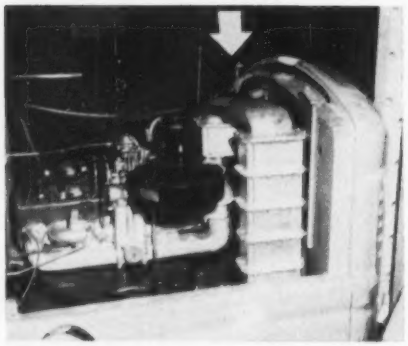
MULT-A-FRAME framing material exhibited by Ainsworth Mfg. Corp., 2200 Franklin St., Detroit, Mich, consists of three basic units: channel frames, spring T-bolts, and lock fittings. The framing is assembled into work benches, tables, rigs, supports, ladders, scaffolds, and shelves of various sizes and shapes. An ordinary wrench is the only tool needed to assemble the units. Serrations in the channel frames hold the bolts in place while the fittings are being attached.



WITHOUT STOPPING THE LINE, all wheels on both sides of a conveyor track can be lubricated by the automatic trolley-wheel lubricator demonstrated in action by Alemite Div., Stewart-Warner Corp., 1826 Diversey Parkway, Chicago 14, Ill. A 115-v., 60-cycle circuit is the only wiring needed for the lubricator. At extreme left is the left-hand lubricator assembly, fed by the flexible hose leading over from the 5-lb.-capacity cylindrical lubricant container in the center. Maximum trolley speed: 75 ft. per min.

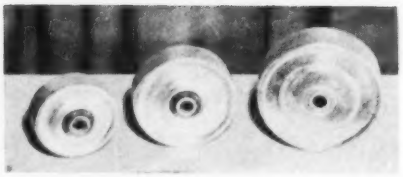
THIS TRUCK COMBINES the constant power source of the gasoline engine and the controlled power performance of an electric transmission. The truck, shown by Automatic Transportation Co., 39 W. 89 St., Chicago 20, Ill., is available in 4,000-5,000-, and 6,000-lb. models, but smaller capacities are expected to be built. Wheelbase is 52 ins., lifting height is 125 ins., and speed is 8 mph. loaded. Gauges are mounted on the steering column. The design features maximum visibility and a low chassis.

Ideas from the MATERIALS-HANDLING SHOW



FUME ELIMINATOR for gasoline-powered lift trucks removes poisonous gases and allows such trucks to be used in closed areas for long periods. The new muffler, made by Oxy-Catalyst, Inc., Wayne, Pa., comes in standard sizes for any make or size of lift truck. The system costs about $165. Filler cartridges cost much less and are needed about every three months, based on 24-hr. operation.

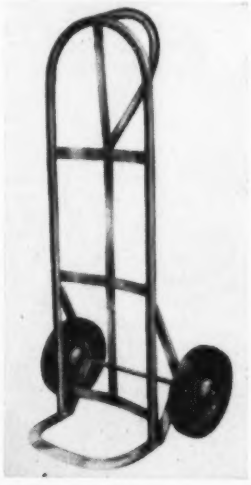
▶ A redesigned "LS" aluminum belt conveyor that offers increased load capacity and a handy belt-pitch adjustment at a 7-to-17% lower price than previous models was shown by Rapids-Standard Co., Inc., Rapistan Bldg., Grand Rapids 2, Mich. Widths of 10 and 16 ins. and five lengths (from 11 to 21 ft.) are available. Motors are ½ and ¾ hp. instead of the former ¼-hp. units.



WHEELS OF 5- AND 6-IN. DIA. have been added to the line of 4-in.-dia. drawn-steel wheels (left) manufactured for all-purpose truck use by Faultless Caster Corp., North Garvin St., Evansville, Ind. The wheels, reinforced and round-edged, will support static loads up to 4 tons per wheel and operating loads up to one ton per wheel.

▶ An air-operated hoist for use in fire-hazard areas was shown by Lehigh Foundries, Inc., 1500 Lehigh Drive, Easton, Pa. The hoist is available in capacities from 100 to 3,500 lbs. with lifting strokes of 24 to 49 ins.

▶ A 15-in. seamless roving can was introduced by Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.



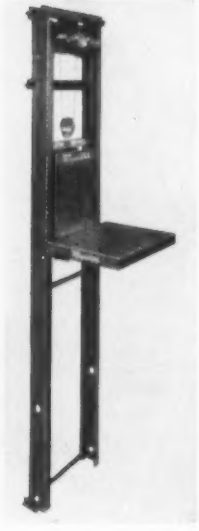
NEW-MODEL WHEEL EZY hand truck with a more convenient, rugged handle mounting and beveled nose that slides easily under materials was on display at the booth of Rapids-Standard Co., Inc., Rapistan Bldg., Grand Rapids 2, Mich.

The new curved handle is securely welded to the truck frame at both top and bottom. Trucks can be had with steel, resinoid, or five types of rubber wheels. Loads up to 500 lbs. can be handled.

Air-Operated Strapping Tools

Three models of pneumatic stretchers for steel strapping were shown by Acme Steel Co., 2840 Archer Ave., Chicago 8, Ill. Tension is controlled by adjusting the air-pressure regulator. The three models are for ⅜-, ½-, and ⅝-in. strapping.

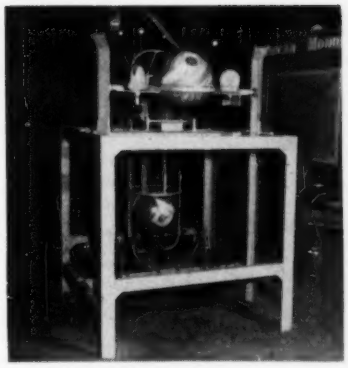
THIS 3,000-LB. LIFT TRUCK has a 50-in. wheel base for minimum floor loading. It was shown by Hyster Co., 2902 N. E. Clackamas St., Portland 8, Oregon, and is designed for narrow aisles, warehouses, and carloading. The 30-in. free lift is standard equipment and allows stacking in low clearance areas and double-decking in freight trucks and cars. Speed: 9½ mph. Price: $4,600 with hydraulic grab for bales and cloth rolls. A revolving mechanism is also available.



NEW PLATFORM LIFT for moving materials from floor to floor when limited space prohibits the use of an inclined belt conveyor was exhibited by Rapids-Standard Co., Inc., Rapistan Bldg., Grand Rapids 2, Mich. Called the Vertical Lift, the platform hoist raises and lowers up to 800 lbs. at a 15-ft.-per-min. speed, and lighter loads proportionately faster. The platform can be lowered to 6½ ins. above floor level and raised to a height of 20 ft.

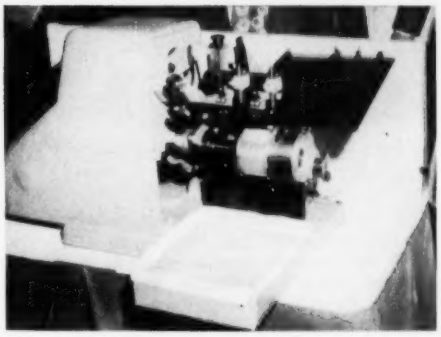
▶ A sheet of paperboard about $\frac{1}{10}$ in. thick that can support any unitized load of bagged goods that a fork truck can lift was shown by The Mead Corp., 118 W. First St., Dayton 2, Ohio. The new product, Poke-Pak, weighs about 5 lbs. and is said to be priced so low that it can be thrown away after a single use. Forty to sixty Poke-Paks can be stored in the space required by one wooden pallet.

▶ A remote-control tractor for warehouses was shown by Barrett-Cravens Co., 4663 S. Western Blvd., Chicago 9, Ill. The tractor pulls a string of platform trailers along an aisle for loading with an order, and the movement of the tractor is radio-controlled by the warehouseman from his loading position.



BEACH BALLS were used by American Monorail Co., 13107 Athens Ave., Cleveland 7, Ohio, to demonstrate its system that is used to deliver full warp beams to the slasher and return empty beams to the warper. The mechanism sets an empty beam in place at the top and then continues down to pick up a full beam at the bottom.

▶ The Warehouser, an electric rider-straddle truck in 2,000- and 3,000-lb. capacities for use in aisles less than 6 ft. wide, was demonstrated by Yale & Towne Mfg. Co., Roosevelt Blvd., Philadelphia, Pa. The truck featured a dual-caster wheel supported on two tapered roller bearings. Excellent stability and traction are obtained, even on rough floors.



IF YOU WANT TO MARK YOUR BOBBINS, quills, or any other small cylindrical type of accessory, you can do so with the new cartridge marker shown for the first time by Markem Machine Co., 50 Emerald St., Keene, N. H.

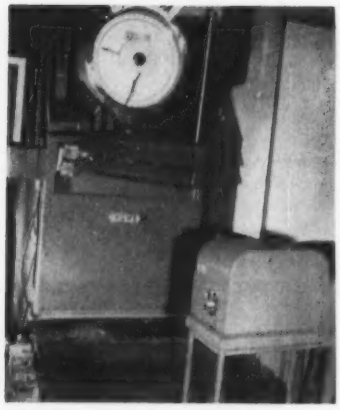
FIRST U. S. SHOWING of this narrow 28 ins. over-all British fork-lift truck was made by R. H. Corbett & Co., Inc., 545 Fifth Ave., New York 17, N. Y. The lift part is electrically operated, and the truck itself is pedal operated like a bicycle. Capacity is 1,200 lbs., and the 93-in. mast lifts 114 ins. The 68-in. mast lifts 92 ins. Cost is about $1,700 complete with batteries.

▶ Elimination of costly and troublesome wood-pallet maintenance was demonstrated by Clinch-Tite Pallet Co., 50 Fairfield St., Boston, Mass. By means of the clinched-nail principle originally developed in Sweden, all pallet nails are mechanically clinched through plugged holes on the center line of the stringers to provide a positive fastening for top and bottom boards and minimize pallet maintenance.

A 1,500-LB.-CAPACITY TRUCK for stacking up to 3-ft. loads from a 6-ft. aisle was shown by Baker-Raulang Co., 1218 W. 80 St., Cleveland 2, Ohio. The truck has no dashboard or cowling in front of the driver; so the visibility is a feature. Turning radius is 59 ins., and the truck can turn in a 55-in. intersecting aisle. Width of the truck is 30 ins.

A COMBINATION TRACTOR, this 12-v. model is battery operated and is 27 ins. wide by 48 ins. long. Maximum speed is 3.5 mph. An 18-v. model is 4 ins. wider. Moto-Truc Co., 1900 E. 59th St., Cleveland 3, Ohio, is the maker. This company also showed a new Grip-All tractor for moving four-wheeled trailers or containers. Draw-bar pull is 700 lbs.

Ideas from the MATERIALS-HANDLING SHOW



ELECTRONIC WEIGHT RECORDER (lower right) shown by Howe Scale Co., Rutland, Vt., is accurate to $\frac{1}{10}$ of 1% of the dial-chart capacity on the batching-control scale (left), with which the electronic recorder was demonstrated. There is no physical contact between the scale dial mechanism and the recorder.

The printing button on the recorder can be pushed any time after the dial indicator starts to move. The teleprint mechanism will not operate until the load is balanced and the indicator comes to rest.

Cable from the scale is furnished 10 ft. long, as standard. The recorder can, if necessary, be located in an office up to 1,000 ft. away from the scale.

The adjustable Hi-Potential Batching Control on the scale, when operated with mechancial feeding of stock to a certain weight or in certain proportions, cuts off automatic feeding when the top weight is reached.

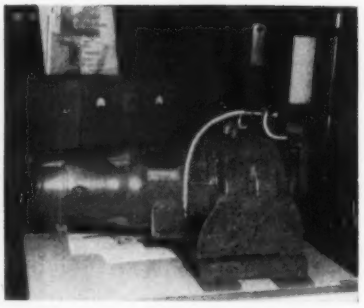
STACKING BASKETS that nest and tier were shown by The Chas. Wm. Doepke Mfg. Co., Inc., Rossmoyne, Ohio. The baskets can be furnished in many sizes and styles—solid, slotted, or wire—and fiber-board liners are available. The baskets might, for instance, be used for bobbins, full or empty, in spinning or winding or in the weave room.

► Radio operation of self-opening doors was demonstrated by The Stanley Works, New Britain, Conn. Trucks coming into a plant can open the mill gate within a 100-ft. radius, and the radio operation is the same as a key. The transmitter operates from the truck battery. The cost is $98 for a receiver and one transmitter and $38.50 for each additional transmitter. Most installations would also have a push-button system independent of the radio control.

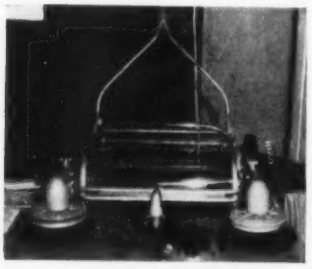
THIS POWER STRAPPER automatically feeds, tensions, seals, and cuts. It was shown by The Stanley Works, New Britain, Conn., and is said to allow one man to do as much as two men with hand equipment. The machine, which is to be leased, handles $\frac{3}{8}$-, $\frac{1}{2}$-, and $\frac{5}{8}$-in. strapping in all thicknesses and is designed to fit right in a conveyor line.

► A new wheel-conveyor spur (or Y-switch) that can be rotated to connect a two-way belt conveyor with either of two wheel-conveyor lines set at different levels was a feature of the display of Rapids-Standard Co., Inc., Rapistan Bldg., Grand Rapids 2, Mich. Called the Flip Switch and incorporating two gravity-wheel sections mounted back-to-back in a rigid frame with the entire assembly pivoted at both ends, the new spur eliminates the need for gravity-line-pitch adjustments to change the direction of material flow. Thus it permits handling of both incoming and outgoing stock on the same line.

► Spartan vulcanized-fiber doffing trucks with welded iron-frame kick bands that protect the sides of the hardwood bottom were exhibited by Continental-Diamond Fibre Co., Newark, Del. Rounded metal corners and curved center bands that push the truck away from the spinning frame when the rail goes down were other features.



THIS PUSH-PULL MOTOR, which has been used in the logging industry to give a shove to logs, was shown by Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa., to get suggestions for applications in other industries. The motor was designed to replace air and steam cylinders, and it is available in a range of stroke lengths and thrust pounds starting with a 300-lb. thrust and 24-in. stroke. If you have a need for a short, powerful thrust motion, look it over.



SIDE BRUSH ATTACHMENTS for its motorless floor sweeper were introduced by Handling Devices Co., Inc., 45 Pearl St., Brookline 46, Mass. One of these sweepers can clean a 32-in. path at 20,000 sq. ft. per hr. A push broom is said to sweep 3,000 sq. ft. per hr. The side brushes can be added to sweepers already in use.

New Conveyor Belt Allows 45° Climb

A brand-new kind of conveyor belt was shown by B. F. Goodrich Co., Akron, Ohio. The belt has a series of horizontal ribs that are cross-cut to form tiny, flexible fingers. There are over 5,700 such fingers per square foot.

When the angle of a rising conveyor can be increased, the length of belting needed is reduced and so is the floor space required. Service life of the new belt is also said to be longer.

METAL-BASED RUBBER WHEEL shown by Rapids-Standard Co., Inc., Rapistan Bldg., Grand Rapids 2, Mich., is designed to increase wheel life substantially and cut wheel costs up to 30% compared with regular demountable or molded-on rubber types.

The thick rubber tread is bonded for life to a steel inner band that cannot warp, stretch, or spread. The Rapistan MB tire can be changed in 5 mins. by loosening four

bolts, slipping off the old tire and band, and sliding a new unit over the wheel disks.

Wheel diameters are 6 and 8 ins., with a 1⅞-in. tread. Loading rates are 400 and 500 lbs.

ONLY 33 INS. WIDE, this new lift truck, Cargo Scout, was shown by Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 3, Ohio. Turning radius is 57 ins., and the truck can make a right-angle turn in a 54-in. aisle. Over-all height of the truck is 68 ins., and there's 50 ins. of free lift before the uprights take a load up to 100 ins.

► A side-shifting load-grab attachment was shown by Hyster Co., 2902 N. E. Clackamas St., Portland 8, Oregon. The basic load-grab attachment can now be positioned without maneuvering the truck, and more accurate stacking is possible because loads narrower than the truck can be aligned with the side of the truck.

► If you shunt your own freight cars around your yard, you'll be interested in the double-duty Trackmobile, shown by Whiting Corp., Harvey, Ill. The unit has both rubber wheels and railroad-track wheels. It takes about 30 secs. to convert from road to track or vice versa. Cost: about $8,000.

THIS NARROW-AISLE HYDRAULIC LIFT features remote control of the battery-powered lifter platform or forks. It was shown by Big Joe Mfg. Co., 900 W. Jackson Ave., Chicago 7, Ill. Capacity of the truck is 1,000 lbs., the lifting height is up to 12 ft., depending on the model, and the width is 28½ ins. Possible uses are for lifting barrels and hauling loads through narrow aisles. Manually operated models were also shown and are much cheaper. (Manual units are priced from $236.50; battery units from $587.50).

Speed Variator Now Comes As a Packaged Unit

A new, packaged unit in which an a.c. motor drives a d.c. generator to get a d.c. system for the driving motor was shown by General Electric Co., Schenectady 5, N. Y. The variable voltage supplied to the motor gives, in the crane application demonstrated (which might be used for loom beams or section beams) accurate spotting, low creep speeds, smooth acceleration, and fast handling.

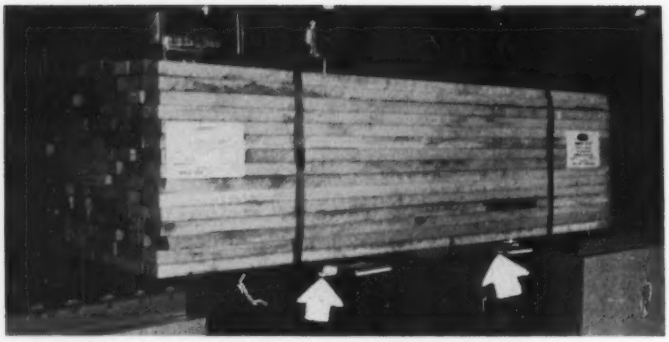
► Portable wheel-conveyor units that are easily adjusted to the width and pattern needed at the moment were shown by Alvey-Ferguson Co., Corner LR and Disney Sts., Cincinnati, Ohio. Called Live-Rails, they consist of wheeled straight and curved sections and portable floor stands to slip them into. All sections are punched to fit not only the floor stands but also overhead supports, coupling plates, guards, and other components.

► The Stake Truckster, a 115x49-in. three-wheel, driver-straddle delivery truck designed to carry 450 lbs. in its 41x42x18-in. slotted front section and to operate at speeds up to 30 mph., was shown by Cushman Motor Works, Inc., North 21st St., Lincoln, Neb. The sides are removable for easy loading and unloading. Power is obtained from a 5-hp. gasoline engine. Turning radius is 15 ft. Gross weight when the truck is not loaded is 560 lbs.

► Quick replacement of solid-rubber tires on casters, lift trucks, etc. is now possible with the demountable tires shown by U. S. Rubber Co., 1230 Avenue of the Americas, New York 20, N. Y. All you need is a wrench to remove the worn tire and replace it with a new one. The new combination costs more initially but is said to pay for itself in lower replacement costs.

THIS PLATFORM LIFT goes up to a height of 12 ft., 8 ins., which gives a maintenance man access to a 20-ft. ceiling for cleaning light fixtures, painting, and all kinds of overhead maintenance work. Demonstrated by Barrett-Cravens Mfg. Co., 4663 S. Western Blvd., Chicago 9, Ill., the Lift-A-Loft goes to its full height is 25 secs. Power is supplied by a battery, and built-in water tanks hold enough water for an all-day job of cleaning. Cost is about $6,500 complete.

Ideas from the MATERIALS-HANDLING SHOW



ROLL-OFF ATTACHMENT for a lift truck moves loads sideways into storage bins without the truck turning in the aisle. The device, which was shown by Towmotor Corp., 1226 E. 152 St., Cleveland 10, Ohio, allows trucks to be operated in aisles only slightly wider than the truck itself. For yarn mills using 68-in. cartons, two free rollers are put in the middle space to keep the cartons from falling when the far end leaves its support.

POSITIVE LOCKING of trucks is accomplished by the FTL truck lock shown by Faultless Caster Corp., North Garvin St., Evansville, Ind. Shown here in release position, the lock drops approximately 1⅛ ins. when it is depressed by the operator's foot, which snaps the brake disk against the floor at a predetermined pressure. The steel disk at the bottom has a universal joint to assure flat contact with the floor. Effective attaching heights run from 5⅞ to 10½ ins. from the floor.

▶ A portable conveyor with an extendable boom for loading and unloading big trucks was shown by The Oliver Corp., A. B. Farquar Div., York, Pa. One end of the unit can be fixed to a conveyor line, and the other end stretches into the truck as unloading takes place. Two models have "reaches" of 11 to 18 ft. and 15 to 25 ft. respectively.

▶ Overhead jobs can be done safely and quickly with the Tey Hydro Sky Lift that dominated the Yale & Towne display. A gigantic arm that can swing in a complete circle of 26-ft. radius holds 500 lbs. aloft. Attached to a crane truck as its base, the integrated unit is controlled by hydraulic controls in a crow's nest at the end of the boom.

▶ An improved industrial-truck battery that has about 20% more capacity and 20% longer life was shown by The Electric Storage Battery Co., 1950 Allegheny Ave., Philadelphia, Pa. The battery, Model TH, is constructed of plastic tubing and occupies the same space as the battery it replaces, only it is slightly higher. The cost is 5% less per ampere-hour, and the batteries are made for all makes of industrial trucks.

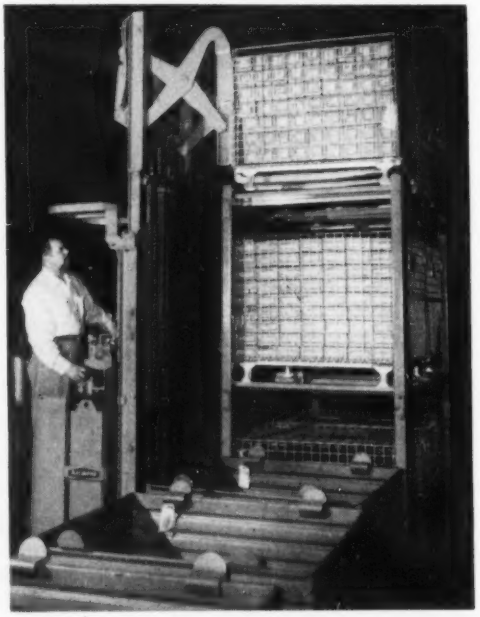
COMBINATION HAND TRUCK AND STEP-LADDER was shown by Fairbanks Co., 393 Lafayette St., New York 3, N. Y. Called the Step-Truck, the two-in-one unit is useful for delivering merchandise to bins, stocking in bins beyond ordinary reach, and collecting and delivering out of supply rooms or warehouses.

New Warehousing Method For Cartons or Boxes

Select-O-Mat is the name of a new warehousing and order-picking method shown by Acme Pallet Co., Inc., 15 Park Row, New York 38, N. Y. The cartons are placed on inclined guides that feed to a central aisle where a hand-operated release device lets one carton out at a time. The inclined guides are fed from the rear, and maximum use can be made of labor-saving handling equipment.

In addition to making good use of floor space, the new system assures taking older cartons first.

▶ An adjustable variable-speed gear motor that allows speeds to be varied from full forward to full reverse by a hand lever was shown by Star-Kimble Div., Miehle Printing Press & Mfg. Co., 200 Bloomfield Ave., Bloomfield, N. J. The motor is designed for positive-drive conveyor applications.



FORKS WITH BOARDING-HOUSE REACH on this truck reach out to a 24-in. span to pick up or deposit pallets up to 48x48 ins. The truck, shown by The Raymond Corp., 32 Madison St., Greene, N. Y., works in a 6-ft. aisle and has a capacity of 2,000 lbs. Besides its use in warehouses, the Reach-Fork is suited to loading and unloading freight trucks and boxcars. The truck is available only with forks at this time.

In visiting many mills, we noticed that no two mills seem to run the same sizes and types of shuttles, even though many of the mills are running the same types of looms on the same general yarn numbers.

Many of the shuttles being run are too large for the shuttle boxes. As a result, shuttle boxing is irregular, and many shuttles and bobbins are broken on the transfer. The too-large shuttles often wear through the leather on the box plates, and shuttles are damaged beyond repair.

We began to wonder if there isn't a standard shuttle size for each type of loom on particular yarn numbers that will result in less shuttle wear, the best-size filling package, and higher weave-room production.

We asked Draper Corp. this question, and its engineers came up with the answer in the accompanying article. This information could do much to correct the errors in shuttle sizes.—Editor.

Standardize Your SHUTTLE SIZE To Improve Weave-Room Operation

▶ Which is more important in weave-room operation, large filling package or high loom speeds? Your shuttle size must be determined by these two factors. If you decide that large filling packages are more important to you, prepare to make loom-part changes to give you—

- **Standard-size shuttles**
- **Better shuttle boxing**
- **Longer shuttle life**
- **Reduced over-all expenses**

THE TWO FACTORS that affect the size of shuttles to be used are:

1. The speed of the loom
2. The size of the filling package

Let's talk about E-model looms specifically. The difficulties of too many sizes of shuttles are perhaps more evident on these looms than on any other type. The difficulties encountered on this loom are also applicable to all other types of looms.

The E-model loom was built in large quantities from 1898 to 1930, and since then it has been produced in smaller quantities. Over this period of 55 years, many design changes have been made in the regular E model; and, in many cases, extensive changes in basic construction have been made on older looms still in the mills.

In such circumstances, it is difficult to be specific as to just what changes may be required when a mill wishes to change to larger bobbins and shuttles.

Choose Between Large Shuttles And High Loom Speeds

But the decision must be reached by each mill as to whether it wishes to run its looms at high speeds with a small filling package and shuttle or sacrifice, at least to some extent, part of the speed and use a larger filling package and larger shuttle for lower filling-handling costs.

A great increase in shuttle size could require a change in the crankshaft to give a longer throw and increase harness shed. This change is uncommon, but some mills have increased their shuttle size so much that their loom performance is weakened. This condition is evident by the lack of the warp-shed clearance over the shuttle. In such cases, the crank throw should be lengthened or the shuttle size should be reduced.

Change These Loom Parts For Proper Shuttle Boxing

To insure a proper shuttle-boxing condition when the width and length of a shuttle are increased, the lay or both lay ends should be changed. Proper shuttle boxing is more important than any advantages that can be gained by increased filling sizes because it not only contributes to efficient weave-room operation but also reduces over-all expenses.

Many mills in making the change-over to larger shuttles have changed only the battery-end lay end. For this reason, many types of battery-end lay ends have been made so that the mills could retain original parts such as the

(*Continued on page 202*)

SYNTHETICS and BLENDS Draw Interest of ASME Textile Div.

The Textile Div., American Society of Mechanical Engineers, turned its attention to how to run synthetic fibers and blends at its spring meeting in Boston, May 22.

The accompanying article was taken from Mr. Thornton's talk "The Importance of Fiber Characteristics in Staple Processing," delivered at the meeting.

Other papers will be presented in the August issue of TEXTILE WORLD.

Fiber Characteristics Dictate How To Run NYLON, ORLON, DACRON

To run staple nylon, Orlon, or Dacron, every step of processing should be arranged to accommodate the special characteristics of the fiber. From opening through spinning, you should allow for fiber—

- **Bulk**
- **Strength**
- **Cohesion**
- **Stretch**
- **Friction**
- **Crimp**

By D. M. THORNTON
Textile Fibers Dept., E. I. du Pont de Nemours & Co., Inc.

IN DEVELOPING A PROCESS for running staple nylon, Orlon acrylic fiber, and Dacron polyester fiber, the standards established for natural fibers should not be accepted without question. The physical characteristics of each of these synthetic fibers can give valuable leads in simplifying the problems facing a mill man.

The accompanying list gives some of the fiber characteristics we believe to be important in staple processing. In comparing these fibers with each other, rather than with some other fiber or some arbitrary standard, we might define these characteristics as follows:

FIBER CHARACTERISTICS

Tenacity and Abrasion Resistance

The strength and abrasion-resistance characteristics of a fiber are important because, taken together, they indicate fiber "toughness." In large measure, they determine the amount of handling or working that can be done on a fiber without damage. In end products, toughness leads to lighter weight with greater durability.

Crimp

The crimp level in these three synthetic fibers is adjusted in the manufacturing operations to give what experience has shown to be the best balance between processability on mill equipment and desired end-use characteristics. Crimp is an important factor in controlling mass cohesion and opening and drafting characteristics, which in turn largely determine the machine settings that should be used for optimum processing. The control of crimp allows you to maintain standard processing conditions in your operations.

Crimp Retention

We can define crimp retention as the ability of a fiber to maintain the crimp that was originally imparted by the producer. This characteristic affects processing tensions, twist levels in roving and spun yarn, and the loft of end products.

Resistance to Permanent Stretch

A fiber that has a high crimp retention or that recovers completely after slight amounts of stretching is said to have a high resistance to permanent stretch. For example, some fibers, such as nylon, stretch, but once stretched they do not recover quickly or completely. These fibers have what we call a low resistance to permanent stretch. Any stretching that occurs in processing tends to be recoverable later as shrinkage during dyeing and finishing operations.

Bulk

By bulk, we mean the loft of a fiber as it shows up in processing, rather than to the relative bulk that can be calculated from specific-gravity measurements. It is that combination of properties that makes a sliver of a given weight occupy more volume than a similar-weight sliver of another fiber having less bulk. Bulk or loft needs to be taken into account in establishing machine settings, feed rates, sliver weights, trumpet sizes, etc.

Fiber-to-Fiber Friction

Friction is the resistance of fibers to move across each other under tension, exclusive of the effect of crimp. The friction characteristics of a fiber serve as a guide in determining optimum drafting conditions.

Relative Fiber Characteristics

	Nylon	Orlon	Dacron
Tenacity	High	Low	High
Abrasion resistance	High	Medium	High
Crimp	High	Medium	Medium
Crimp retention	High	Low	Medium
Resistance to permanent stretch	High	Low	Medium
Bulk	Medium	High	High
Fiber-to-fiber friction	Medium	High	High
Mass cohesion	High	Low	Medium
Tensile modulus at elevated temperatures	High	Low	Medium

Mass Cohesion

Mass cohesion is the tendency of fibers to cling together in all processes up to the addition of twist. It includes the effect of crimp. Mass cohesion largely determines the amount of opening required by a fiber and also the amount of working needed to parallelize fibers.

Modulus at Elevated Temperatures

Here we are referring to tensile, torsional, and bending moduli. All three fibers are themoplastic, their properties changing with changes in temperature. The ability to crimp-set nylon or to set pleats that are relatively permanent to moisture in fabrics of Dacron polyester fiber or Orlon acrylic fiber are results of this characteristic. However, this change in properties with change in temperature must be taken into consideration in handling the fiber at elevated temperatures.

How These Properties Are Used

Let's turn now to some examples that will illustrate the use of these properties in establishing a fiber-to-yarn process. The principles developed here are applied to worsted processing, but they may be used equally well for other systems of yarn preparation.

The high bulk of Dacron and Orlon makes it unnecessary to open the bales prior to their use, provided, of course, that they have not been stored for long periods in an unconditioned area. The high mass cohesion, high crimp, and high crimp retention of nylon, plus the fact that nylon tends to open itself when unbaled, make desirable a 24- to 48-hr. blossoming of nylon stock prior to processing. This blossoming makes less working necessary, and hence there is less fiber damage and nep formation in later processing steps. Blending of bales prior to processing results in greater uniformity of your final product, and blending is therefore recommended wherever possible.

Carding

Nylon

More opening required at Bramwell feed
Close settings
More working and stripping action required
Fancy desirable

Orlon

Minimum opening at Bramwell feed
Open settings
Little worker and stripper action required
Fancy optional

Dacron

Moderate opening at Bramwell feed
More open settings
Moderate working and stripping action
Fancy may be used

CARDING

As you know, the objectives of the carding operation for synthetics are:

1. To straighten and separate fibers
2. To blend and distribute fibers uniformly
3. To produce a continuous sliver of fibers for further parallelization

In order to take full advantage of the fiber properties that make uniform, high-quality yarns possible, synthetics demand carding equipment that is in top mechanical condition. The uniformity of the staple as manufactured and the absence of foreign material readily allow the maintenance of equipment in top mechanical condition.

Control of temperature and humidity is required for maximum uniformity of operation through control of mass cohesion and fiber-to-fiber frictional characteristics.

In blending or mixing operations where wool is involved, separate oiling of the wool is a must for best processing performance and yarn quality.

The difference in dyeability of the various fibers makes it essential to clean cards thoroughly when a change is made from one fiber to another. In carding synthetics, as is the case with natural fibers, it is desirable to increase surface speeds gradually in order to eliminate abrupt changes and consequent fiber damage. However, there are some changes in settings required for each of the synthetics because of differences in their physical properties.

The high mass cohesion of nylon, along with its high crimp and crimp retention, requires more carding action to separate the fibers. Fortunately, nylon's high tenacity, abrasion resistance, and resistance to permanent stretch allow the necessary carding without permanent damage to the fiber.

On the other hand, Orlon acrylic fiber, with its low mass cohesion, medium crimp, and low crimp retention, requires a minimum of working in carding.

Dacron polyester fiber falls in between these two extremes, as would be inferred from its properties. A uniform feed through the spiked vertical lattice apron is required and is achieved by variations in apron speed and action of the oscillating beater comb, settings for which vary with the bulk and mass cohesion of the fiber involved. Proper selection of these settings is necessary in order to control the degree of opening of the stock and maintain a constant feed rate.

In general, the physical properties of all three fibers lend themselves to high-quality carding performance.

Where crimp and crimp retention are on the high side, as for nylon, fancy rolls are generally required.

The high loft of Dacron and Orlon often makes necessary the production of a lighter-weight sliver than is the case with lower-bulk fibers such as nylon in order to permit passage through conventional coiler mechanisms.

Perhaps the most important point to stress in carding synthetics is the necessity for maintaining the most uniform and most accurate settings possible. Highest-quality card sliver is dependent upon the accuracy of these settings.

The use of staple diagrams and sliver-evenness tests are highly desirable in analyzing the quality of card sliver and achieving maximum yarn

(*Continued on page 222*)

Interpret Machine Variations With ANALYSIS OF VARIANCE

► **Coefficients of variation can be easily calculated with a table of conversion factors if the testing is done at random. The interpretation of differences in variation is based on two principles:**

- **Within-machine variation is dependent on the previous process**
- **Over-all variation is dependent on between-machine variation**

By NORBERT L. ENRICK
Werner Textile Consultants

BY A SIMPLE 10-MIN. ANALYSIS of yarn-sizing data, a mill can get three components of the coefficient of variation: within-machine (V_w), between-machines (V_b), and room-over-all (V_o) variation.

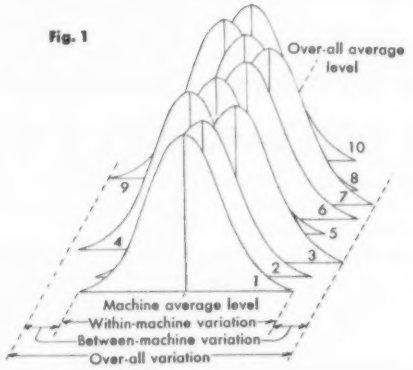
Differences Are Important

Knowing these values is important. For example, if for one process we find that within-machine variation is greater than room-over-all variation, we should suspect either the method of sampling or the performance of the test (but check your arithmetic first). In many such cases, the boredom of routine sizing is the primary cause of inconsistent results.

As another rule, we would expect that the room-over-all variation of one process is the source of the within-machine variation of the next one, since generally the product from several machines is combined in the next process. For example, the slivers from at least 16 different cards will feed into one lap winder in a cotton lap-back-drawing setup. An allowance must be made for the reduction of variations in doubling, and this allowance is usually equivalent to the square root of the number of doublings. A 4% room-over-all variation

(*Continued on page 230*)

Fig. 1



PROCESS VARIATION can be within-machine variation or between-machine variation. In this diagram of 10 machines, each machine has the same pattern of within-machine variation; but the over-all variation is greater than each within-machine variation because of the between machine variation. The over-all variation in this diagram is from the extremities of Machines 9 and 7.

Fig. 5

Variation tested at second process		Variation tested at first process	Indication and action needed
V_w and V_o	equal to	$\frac{V_o}{\sqrt{N}}$	No new variation added at second process which is under good control
V_w	equal to	$\frac{V_o}{\sqrt{N}}$	Variation is being caused by differences in machine levels at the second process. Look for wrong gears in the drafting train (include all tension gears)
V_o	larger than	$\frac{V_o}{\sqrt{N}}$	
V_w and V_o	larger than	$\frac{V_o}{\sqrt{N}}$	Possibly caused by mechanical differences between deliveries within a machine. Look also for differences in level between large groups of machines (between card grinders' sections)
V_w or V_o	less than	$\frac{V_o}{\sqrt{N}}$	Impossible physically. Look for a mistake in calculations, nonhomogeneous data, insufficient samples for significance, or faulty testing

Explanation of symbols:
W = Coefficient of variation
$_o$ = over-all $_w$ = within-machines
N = Number of doublings

THIS ACTION CHART is a guide to the interpretation of inconsistent coefficients of variation. The chart can be summarized into two rules if you are certain that your testing and calculations are correct and that no appreciable mechanical difference exists for the deliveries between machines. The rules:

1. The within-machine variation of one process is determined solely by the over-all variation of the previous process.

2. Within a given process, an excess of over-all variation over within-machine variation is caused by between-machine variation.

Fig. 4

Number of machines used to get range	Conversion factor
2	0.89
3	0.59
4	0.49
5	0.43
6	0.40
7	0.37
8	0.35
9	0.34
10	0.33

THIS TABLE shows the conversion factors used in the short method of getting the coefficient of variation. Four machines were used to get the ranges in Fig. 3 (on opposite page); so 0.49 is used to multiply the average ranges, 5.92 and 6.58, to get the coefficients of variation 2.9 and 3.2. The factors are reciprocals of divisors furnished with ASA and ASTM standards.

Fig. 2 -- Picker Lap-Meter Test

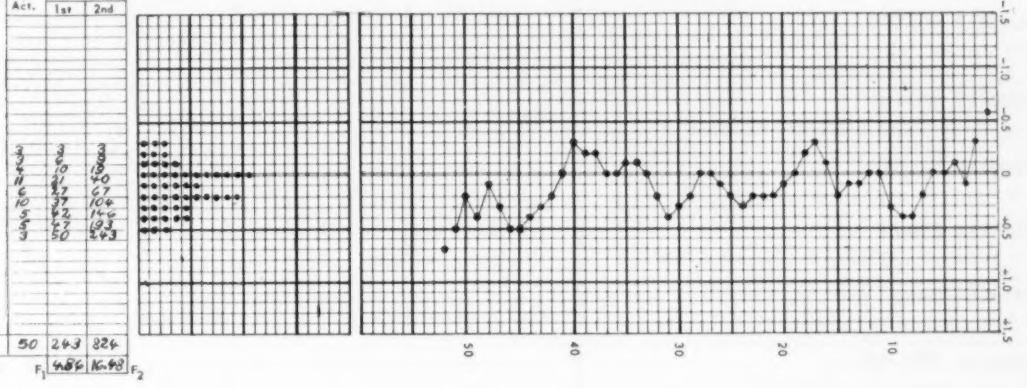
Mill..... Picker No. 9 Stock Warp Tested by G.E. Date.....

Lap weight		Stretch draft		Calculations: Coeff. of variation	
Gross wt.	58.25 lbs.	Waste yards	1	1 B (heaviest weight recorded)	17.00
Standard lap stick	3.25 lbs.	First and last yard	2	2 0.1 X ($F_1 - 1$)	0.39
Net weight	55.00 lbs.	Number yards weighed	50	3 W = average weight per yard (1−2)	16.61
Average wt. per yd.	16.60 oz.	Total yards	53	4 2 X F_2	32.96
Corrected wt. per yd.	— oz.	Std. lap length (yds.)	53	5 F_1	4.86
Standards		Difference (yds.)	0	6 F_1 X F_1	23.62
Lap length	53.00 yds.	Tolerance (yds.)	0.5	7 $F_1 + F_1^2$ (5 + 6)	28.48
Weight per yd.	16.50 oz.	Within ☑ Outside ☐		8 $2F_2 - (F_1 + F_1^2)$ (4−7)	4.48
Gross weight	58.00 lbs.	**Moisture regain control**		9 Standard deviation $0.1\sqrt{(8)}$	0.211
Net weight	54.75 lbs.	M.R. indicator reads	— %	10 Coeff. variation [(9) X 100 ÷ 3)]	1.27
Coeff. of variat'n Std.	1.3 %	Std. M.R. indicator	— %		
High	1.5 %				

Frequency

Act.	Cumulative 1st	Cumulative 2nd
3	3	3
7	10	18
11	30	40
6	37	67
10	37	106
5	42	146
5	47	193
3	50	243
n	50	243	824
÷n	F_1	4.86	K=98 F_2

Lap-meter readings



STANDARD CALCULATION for the coefficient of variation is made on picker laps. This calculation takes about 10 mins. per test. (If the computed coefficient exceeds the standard in two successive tests, the picker and opening line are checked.) The lengthy calculation is necessary because the data are a series of weights in succession and not at random. The short method used to get the coefficient of variation used in the analysis of variance is shown in Fig. 3.

Fig. 3 -- Spinning Coefficient of Variation

Mill..... Dept. Spinning Machine Filling frames Prep. by..... Date.....

Item tested Filling bobbins Stock Filling mix

Yards tested 120X4 Doublings None Std. Size 9.80 High..... Low..... Average 9.72

Date	3/2				Range	3/7				Range	3/13				Range
Mach. No.	2	6	31	5	(over-all)	24	8	7	1	(over-all)	21	6	1	2	(over-all)
	9.66	10.01	9.79	10.24	0.58	9.60	9.47	9.69	9.51	0.22	9.70	9.93	9.58	9.30	0.63
	10.07	9.90	9.93	9.19	0.88	10.12	9.21	9.67	9.49	0.91	9.62	9.62	10.15	9.91	0.66
	9.72	9.85	10.18	9.43	0.75	8.95	9.41	9.58	9.62	0.21	9.67	10.11	9.49	10.34	0.85
	9.98	9.67	10.21	9.30	0.91	9.71	9.43	9.80	9.43	0.27	10.20	9.45	9.89	9.73	0.75
Range (within)	0.41	0.34	0.42	1.05	—	1.17	0.26	0.22	0.19	—	0.58	0.66	0.66	1.04	—

Summary	Within	Over-all
1. Total of ranges	7.00	7.62
2. Average range	0.58	0.64
3. Average range, %	5.92	6.58
4. Coefficient of variation	2.9	3.2

Notes:

SIMPLIFIED CALCULATION for the coefficent of variation is made on spinning-frame yarn numbers for the analysis of variance of the frames. Within-frame range is obtained from the columns; over-all-frame range is obtained from the rows. The ranges are averaged (0.58 and 0.64) and then expressed as a percentage of the average yarn number (9.72). These percentages are multiplied by the appropriate conversion factor from Fig. 4 (0.49 for four machines). Random selection is necessary for this short method.

A SUNOTEX PROCESS AID WILL HELP YOU DO A BETTER JOB CHEAPER

in processing wool, synthetics, cotton and blends

WOOL

SUNOTEX WO-220 For worsted "tops."	"Tops" treated with WO-220 will not discolor during storage. WO-220 scours easily, leaves wool in perfect condition for dyeing, even in lightest pastels.
SUNOTEX WO-410 For worsteds and high-grade woolens.	Gives greater softness to knitting and blanket yarns.
SUNOTEX WO-420 For worsteds and high-grade woolens.	Gives same softness to knitting and blanket yarns as WO-410, but is used to overcome surface friction during weaving.
SUNOTEX RSO-48 For processing knitting and blanket yarns.	Has high antistatic properties. Is ideal for use where humidification is not available.
SUNOTEX TS-48 For processing dyed wool stock and yarns.	Can be scoured easily. Does not stain or develop odors.
SUNOTEX RWO-420 Used in spinning suitings, blanketing, carpeting, felts and wool blends.	Retains its outstanding scourability for long periods. The ideal replacement for lard oil—used where surface lubrication of wool is desirable.
SUNOTEX TSO-615 An inexpensive product for processing lower quality wool blends and reworked wool blends.	Has sufficient body to protect fibers. Eliminates fly and static problems.

SYNTHETICS

SUNOTEX RWO-48 A softener and plasticizer for gelatin and other binders in sizing of viscose and acetate yarns.	Provides excellent penetration and uniform plasticizing, resulting in smooth thread surfaces.
SUNOTEX RSO-48 For processing nylon and similar synthetics where static is a problem.	Provides excellent lubrication of the thread surface. It reduces static even when used in quantities of 1% or less.
SUNOTEX TS-48 Trough oil on full-fashioned machines. Also an all-purpose fiber lubricant.	Scours easily from viscose, acetate, nylon and mercerized cotton. Does not stain or develop odors.
SUNOCO FIBRLUB L-220 A nonemulsifying coning oil used in the throwing of nylon for full-fashioned hosiery.	Lubricates the sized threads, reduces "roll," increases snag resistance, prevents corrosion, produces a more uniform stitch.

COTTON

538 COTTON CONDITIONER "Lays the fly."	Keeps mill cleaner, improves working conditions, increases cotton yield.

For more information, call your nearest Sun office or write SUN OIL COMPANY, Philadelphia 3, Pa., Department TW-7.

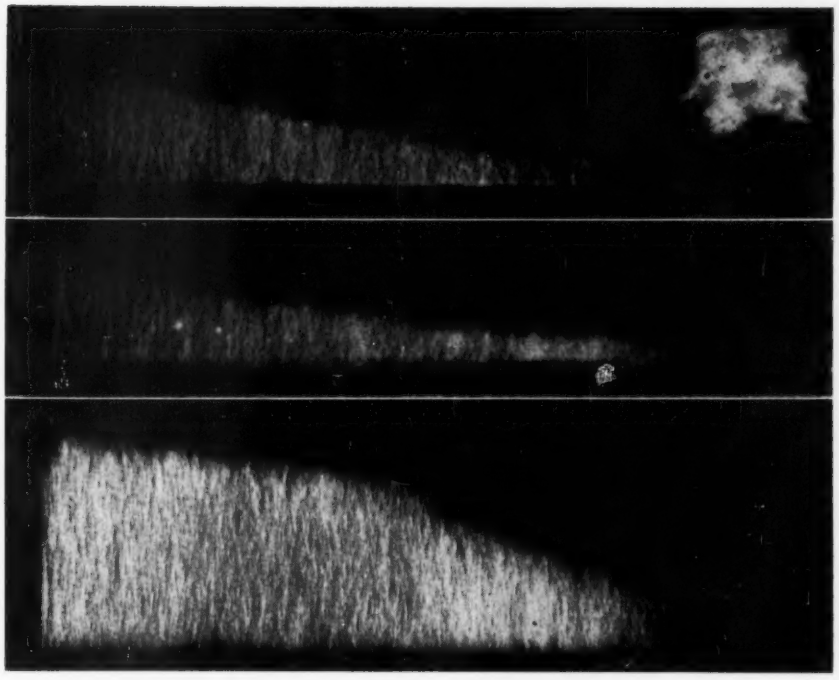
INDUSTRIAL PRODUCTS DEPARTMENT

SUN OIL COMPANY

SUNOCO®

PHILADELPHIA 3, PA. • SUN OIL COMPANY LTD., TORONTO & MONTREAL

For more information, write direct or use Reader Service post card.

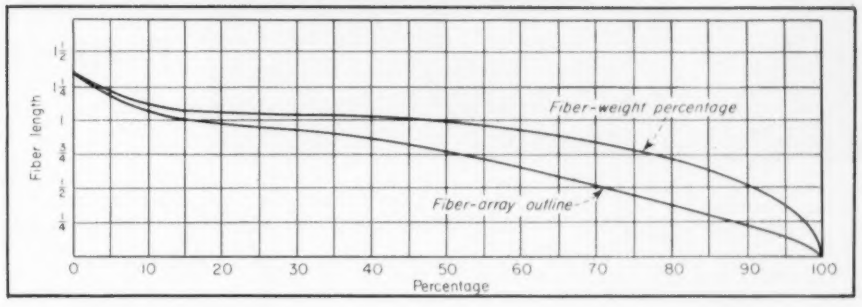


MUCH SPINNABLE FIBER is shown in this fiber array of card-flat strips. The trash extracted from the strips is shown above the right-hand end of the array. The analysis showed 72% of spinnable fiber and 28% trash by weight.

AMOUNT OF LONG FIBER in this array of comber noils was excessive. The percentage of noils removed by the comber was 15%.

FIBER BREAKAGE of synthetic staple is clearly shown in the right-hand end of this array. Fiber array of staple before processing showed an even length of fiber.

FIBER-ARRAY DIAGRAM made direct on the sorter is shown by the lower outline. Conversion from the fiber-frequency outline to fiber-weight percentages is shown on the upper outline.



Cut Loss of Spinnable Cotton With FIBER ANALYSES of Waste

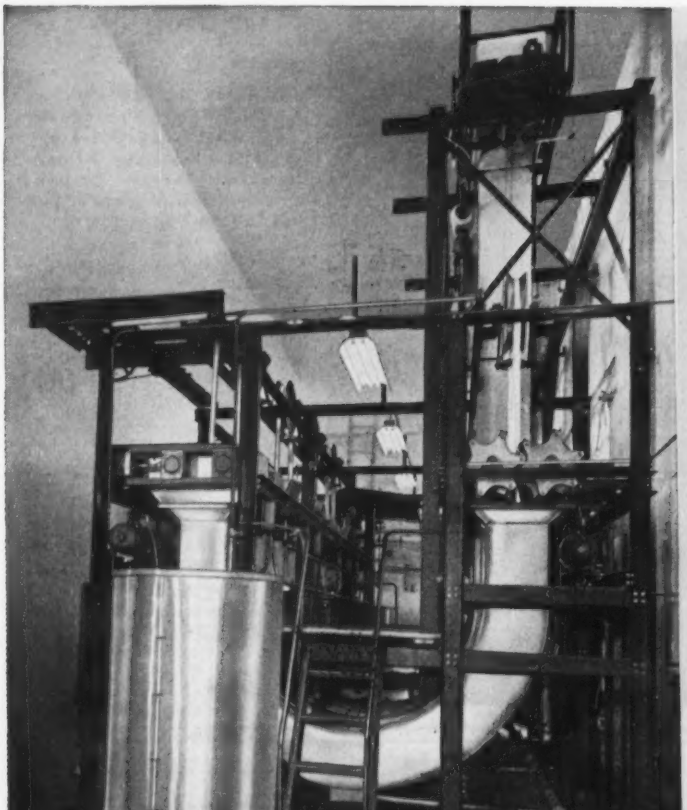
- **Fiber-length value is more important than the total percentage of waste**
- **Established waste standards may be too high for the class of goods being manufactured**
- **A simple change from conventional speeds and settings can often prevent loss of good fiber**
- **Reduction in the amount and length value of waste is possible without loss of quality in product**

A BOSS CARDER MAY BOAST THAT his flat strips never exceed 3% of the stock fed in. This same carder would probably be unpleasantly surprised if shown a fiber array of his flat strips. Many such arrays made from flat strips in well-managed mills show up to 72% of good, spinnable fiber. The mean fiber length of these strips may be only slightly shorter than the mean length of the lap on the back of the card.

Comber men will show their percentage weighings of noils and comber sliver. All the figures are close to the standard extraction in weight, but what about the length value of the noils? How many of those long fibers really belong in the comber sliver? The noil percentage is right, and the bulk of the fibers appears to be short; but no exact fiber-length figures are available for guidance in making settings.

A rough check on the amount of strips can be made by comparing total strips made with the total card product for a given period. Percentage noils can be checked roughly in the same manner. Total waste plus total product gives a base for figuring per-

(*Continued on page 192*)



2-stage Butterworth Junior Bleaching Unit at Kerriglen Finishing Co., Providence, R.I.

40 x 16 foot Floor Space

for High Quality Continuous Bleaching

Here is a complete two-stage Butterworth Junior Bleaching Unit that requires a floor space only 40x16 feet.

Developed in conjunction with DuPont for small production bleaching. Ideal for the smaller plant or for specialty bleaching in larger plants. Rated production is 600 lbs./hr. for single stage, 1200 lbs./hr. for double stage — based on 5 yd./lb. muslin sheeting 50" wide.

The Junior range does a high quality bleaching job continuously and economically. Only one man is required to operate the unit. Cloth is handled gently and efficiently with patented Butterworth tension control devices.

A complete Junior range for cotton knit goods or cotton piece goods includes Squeezers, Washers, Saturators, J-Boxes, motors, instruments and auxiliary equipment.

For full details, ask for Bulletin 200.

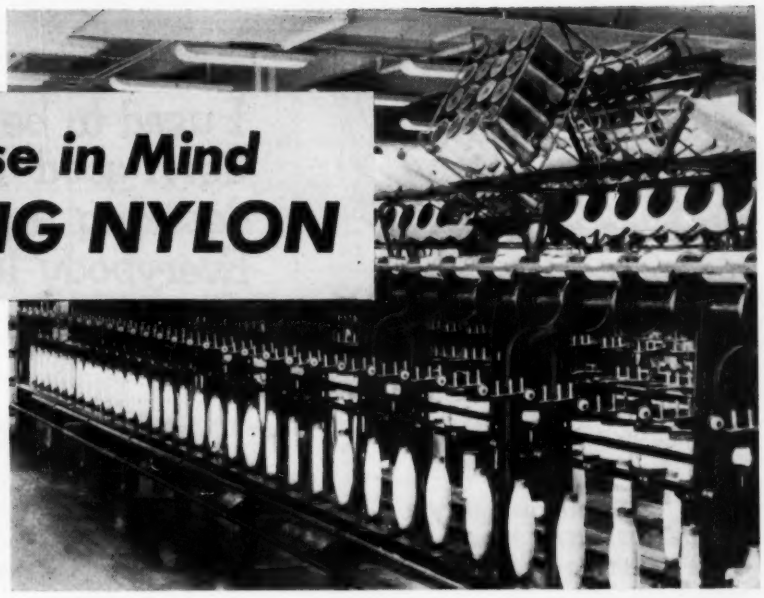
H. W. BUTTERWORTH & SONS CO.
Bethayres, Pennsylvania

1211 Johnston Building, Charlotte, North Carolina
187 Westminster Street, Providence, Rhode Island

Machines for Bleaching, Boiling-Out, Dyeing, Mercerizing, Finishing & Embossing : : Pot Spinning Machines for Synthetic Fibers : : Calender Rolls : : Tenter Chains

BUTTERWORTH

Keep End Use in Mind In WINDING NYLON



▶ Tension, number of wraps, package density, knots, tailings, wound-bobbin weight, and winding speed vary according to the denier of the supply yarn and what the yarn is being prepared for.

THE PRIME PURPOSE OF winding is to produce a spool of the proper density and wind that will give ultimate efficiency in the next operation. It is essential that consideration be given to the tension, the number of wraps that will give the best possible delivery, and several other variables.

Winding Tension—During the process of winding fine-denier unsized nylon direct from pirns, the lowest practical tension should be applied. In the majority of cases, no applied tension is used, since the characteristic of unsized nylon is to build a firm package even when no tension is applied. Low tension will keep yarn stretch to a minimum and will produce a more uniformly controlled yarn.

The tension applied during the redrawing operation should not exceed 0.25 gm. per den.

When sized nylon is redrawn on a winder, it may be necessary to tension the yarn slightly to produce a desirable bobbin. The additional tension applied during redrawing of sized yarn will not adversely affect the uniformity of the yarn since sized yarn does not pack as tightly as unsized yarn. Furthermore, the sizing operation causes the yarn to be partially shrunk by the action of the yarn passing over the emulsion roll on the single-end sizing machine.

The disk-type tension is best suited for the winding operation. Snubbing tensions should be avoided since any variation in the surface friction of the yarn or any plucking will be magnified by a snubbing tension.

Controlling Package Density—Twist, denier, number of filaments, and tension all influence the density of the wound package. The lower the twist, the fewer the filaments; the finer the denier, the greater the density of the finished package.

To further control the density of the finished package, it is important that the supply be accurately positioned to the center of the take-up package. The yarn line must be as straight as possible so that it will present the minimum amount of angularity in passing from the yarn supply to the take-up spindle.

The density of the filled bobbins should be as nearly uniform as possible.

A wide variation in the density of finished packages added to any differences that may already exist in the yarn will further affect its uniformity.

Number of Wraps on the Bobbin—To insure good delivery, careful consideration must also be given to the number of wraps placed on the winder bobbin. Too many wraps will cause the yarn to lie too closely and cause end breakage while delivering. Too few wraps will cause variation in tension when the yarn is delivering from the bobbin in the next operation.

For nylon 70 den. and finer, seven wraps per inch is proper, and for nylon 100-den. and heavier, five wraps per inch should be used. However, the number of wraps can best be determined by individual mill requirements.

Temperature and Humidity—While a relative humidity of 65% and temperature of 80° F. are considered excellent for throwing operations, the range of 55 to 70% r.h. and 70 to 85° F. will give satisfactory results.

Additional Winding Considerations—When knots are tied during the winding operation, the double weaver's knot should be tied since the single weaver's knot does not hold nylon as well as it does rayon and cotton. It is important that knots be tied tightly to prevent slippage and that the diameter of the knot be held to a minimum.

Tails should also be clipped to a minimum. Tails that are clipped too long are a never-ending source of trouble since they are very susceptible to dirt, grease, and oil pickup throughout the various operations and consequently will cause undue trouble in the scouring operation at the finishing plant.

Empty winding bobbins should be started by tying the nylon end to the barrel at the head of the spool to prevent loose ends.

The yarn must be handled gently and kept clean at all times. Harsh handling of nylon during transit within the plant can affect end breakage and ultimate quality. For example, placing a tray of full bobbins heavily on the floor can disturb yarn

(*Continued on page 210*)

Prepared from the recently published book: *Nylon Technology*, First Edition, by Karl H. Inderfurth; McGraw-Hill Book Co., Inc., 330 West 42nd St., New York 36, N. Y.

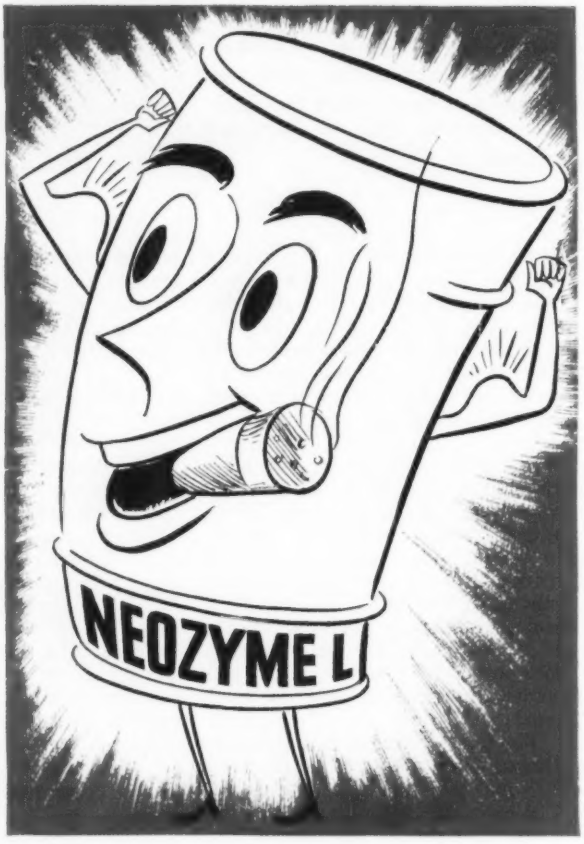
I used to be just a "darn good" LIQUID desizing agent. Everybody liked me!

Then one day I was called into the front office. They thought I could do an even better job. So they sent me to the lab for a complete going over.

And now I've got so much power I can really lick my weight in "wild costs"!

That's right! Old favorite NEOZYME L has a new lease on life – through HIGHER CONCENTRATION. Now a little goes a *much longer* way – AT NO INCREASE IN PRICE!

SAVES EXPENSIVE STORAGE SPACE. SAVES TIME IN HANDLING. PUTS *REAL EFFICIENCY* INTO EVERY DESIZING OPERATION and gives you all these PLUS features too:



- **SUPERIOR HEAT STABILITY**... at 160° F. – better than other liquid commercial enzymes.
- **RESERVE POTENCY**... addition of common salt increases bath potency... and saves NEOZYME!
- **CONTROLLED QUALITY**... strict Royce laboratory control guarantees safe, stable, uniform products.
- **COMPLETE SERVICE**... the Royce Technical Service is always available to help solve your desizing problems.

Prefer a powdered desizer? Ask for data on powdered NEOZYME and NEOZYME HT. Or for a standard liquid desizer, NEOZYME SPECIAL.

Write today. We'll gladly send you full information and data sheets.

ROYCE CHEMICAL CO.

Royce

CHEMICAL COMPANY · CARLTON HILL, NEW JERSEY

Manufacturers of Chemicals for the Textile Industry

8078

For more information, write direct or use Reader Service post card.

Properties and Effectiveness of Some of the More Common Fungicides

Fungicide	Stability	Effectiveness	Toxicity	Odor	Color	Fabric Hand	Chemical Effects
Copper Ammonium Carbonate	Good	Fair	Low	OK	Blue	OK	None
*Copper Naphthenate	Good	Good	Low	Strong unpleasant	Green	Stiffens	Severe
Copper-3-Phenyl Salicylate	Good	Fair	Low	OK	Brown	OK	None
Copper-8-Quinolinolate	Excellent	Excellent	Very Low	OK	Greenish yellow	OK	None
Dihydroxydichlorodiphenylmethane	Fair	Good	Low	OK	Slight	OK	None
Rosin Amine D Acetate	Fair	Fair	Too high for safety	OK	Slight	Harsh	None
Rosin Amine D Pentachlorophenate	Good except in sunlight	Very Good	Very Low	OK	Slow darkening	Slight stiffening	None
Salicylanilide	Fair	Poor	Low	OK	Slight	OK	None
Zinc Dimethyl Dithio Carbamate and Zinc 2-Mercaptobenzothiozole	Good	Good	Very Low	OK	Slight	OK	None
Orthophenylphenol	Poor	Fair	High	Slight phenolic	Slight	OK	None
*Pentachlorophenol	Poor	Very Good	High	Slight phenolic	Slight	OK	Severe
*Sodium Pentachlorophenate	Poor	Good	High	Slight phenolic	Slight	OK	Severe
*Tetrachlorophenol	Poor	Very Good	High	Slight phenolic	Slight	OK	Severe
Phenyl Mercuric Salts	Very Poor	Good	Very High	OK	Slight	OK	None

*Fungicides indicated will accelerate oxidation of cellulose in sunlight.

How To Choose Textile FUNGICIDES

▶ When you consider treating your product with a fungicide, you must check for:

- **Stability**
- **Efficacy**
- **Toxicity**
- **Odor**
- **Color change**
- **Hand**

By CHARLES C. YEAGER
Technical Director, Scientific Oil Compounding Co., Inc.

Stability of a fungicide is determined by resistance to heat, light, ultra-violet rays, and oxidizing agents. Very few chemical compounds possess all these characteristics. The fungicide must be stable as a compound and also when applied to the fabric. It must be stable not only for the estimated life of the finished goods but must retain its stability through long periods of storage.

Adapted from a recent paper delivered before AATCC Midwest Sect., Chicago, Ill.

Efficacy may be either fungistatic or fungicidal. A large number of products possess good fungistatic qualities: they prevent the germination of fungus spores; or they are fungicidal: they actually destroy the spores before they can germinate and damage the fabric. The chosen compound must be effective in relatively small amounts to enable the user to retain low weight add-on and also to keep the cost within reasonable limits.

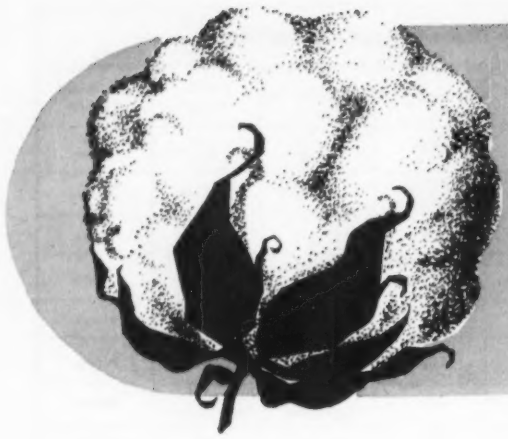
Toxicity must be of an extreme low order. The civilian market differs from governmental procurements in one important aspect—the manufacturers of fungicides exercise no control over the use of their products. Government agencies can insist that a man wearing a treated pair of shoes must wear hosiery, but the manufacturer of civilian goods has no such means of protecting his customers. He may suggest, he may warn, but he cannot order. He must operate on the assumption that his product may come into intimate skin contact or, in the case of small children, even be placed into the mouth. Thus the responsibility is squarely on the shoulders of the manufacturer. He must be sure that his fungicide meets low toxicity requirements, and he must choose from the few compounds that are low enough in toxicity to permit their indiscriminate use.

Odor of the fungicide must not be unpleasant, particularly if it is used in wearing apparel. A number of fungicides possess unpleasant odor characteristics, while others are entirely free from this objectionable feature.

Color of the fungicide must not discolor the treated material. This characteristic presents no great obstacle, particularly in the treatment of dyed goods, since dye adjustments easily overcome any color changes caused by the fungicide.

Hand must not be significantly changed by the fungicide, especially if the fabric is to be used in the manufacture of wearing apparel. A

(Continued on page 228)

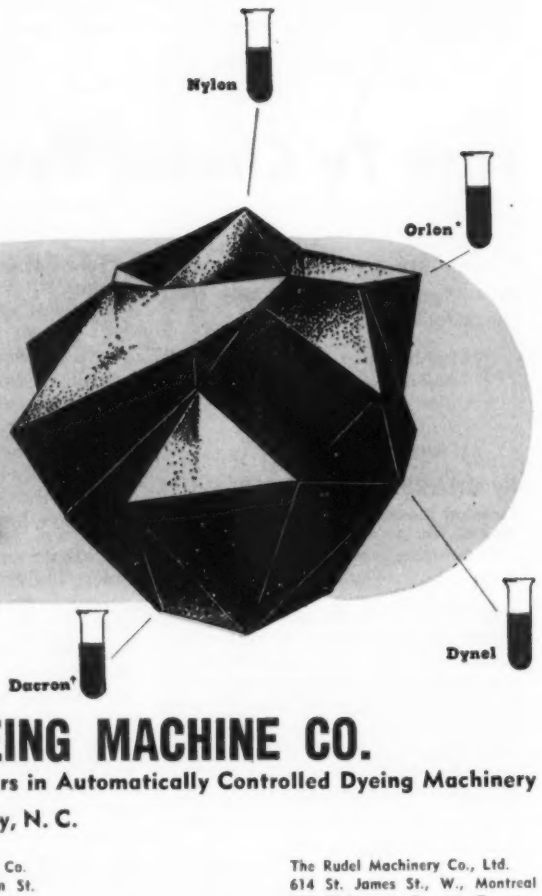


FROM COTTON TO COAL

In the eventful years since 1922, textiles have moved into an age of marvels in fibers and fabrics. From the fundamental problems of dyeing natural fibers to the complications of dye-resistant synthetics, Gaston County has kept abreast, or ahead, of many a change.

With "know-how" increased by problems solved, we moved forward to the biggest job of all—development of a dyeing machine capable of withstanding extreme temperatures and pressures necessary to the successful dyeing of Orlon*, Dacron‡ and other synthetic fibers, yet suited to conventional types of dyeing.

Meeting such revolutionary change has built for Gaston County a powerful reservoir of skill and knowledge. Why not profit from our thirty years of pioneering? Let us help you plan your dyeing operations to give you full advantage of every development . . . that can increase your production and improve your quality.



GASTON COUNTY

GASTON COUNTY DYEING MACHINE CO.

Pioneers in Automatically Controlled Dyeing Machinery

Stanley, N. C.

* Dupont's trade name for Acrylic fiber.
‡ Dupont's trade name for Polyester fiber.

Albert R. Breen
80 East Jackson Blvd.
Chicago, Ill.

Gaston Co. Dyeing Machine Co.
Terminal Building, 68 Hudson St.
Hoboken, N. J., G. Lindner, Mgr.

The Rudel Machinery Co., Ltd.
614 St. James St., W., Montreal
137 Wellington St., W. Toronto

Pointers FOR SUPERVISORS

Put Your Own Know-How To Work in Employee Relations

► **Service departments can help you improve relations with the people you supervise, but you have to do the real work yourself. These tips will help you in this important part of your job.**

By FRANK A. COOK
Manager, Industrial Relations Division, Carter Fabrics Operating Group, J. P. Stevens & Co., Inc.

THE SUPERVISOR OF TODAY is being challenged to improve his relations with the people he supervises. The real progress that the supervisor makes in improving these relations must, of necessity, be made by him, not by a service department or others. Of course, service departments such as personnel can help the supervisor, but they can never do the job for him.

At times the supervisor may become discouraged by the amount of work this area of the job requires, or he may have some relations activity that produces a problem instead of smoothing out relations. In such cases, he may begin to feel that this part of his job should be turned over to a college professor, a Mr. Anthony, or the personnel department.

But a supervisor should accept his responsibility to improve his relations with the people he supervises and should request that all service departments help him in every possible way to reach his objective.

Once a supervisor has accepted the challenge, he often gets confused and begins to believe in his own mind that he doesn't know how to make the necessary improvements. This state of mind often leads him to request training courses in human relations even before he has made an attempt to better his relations.

Use Your Own Know-How

Actually, the average supervisor knows more about improving human relations than he has ever used, and he should use this know-how instead of getting all frustrated by taking this course and that course in human relations. A supervisor who daily applies his know-how in improving relations on the job will not only improve his relations but will also be in a position to get really worthwhile benefits from courses in human relations as they are made available to him.

The supervisor today is being told by service departments to use these techniques: "Communications," "Pat people on the back," "Say good morning," "Let people know how they are getting along," "Give 'em a chance to advance," and many others. Many times the supervisor is supplied with all types of suggestions, tools, and aids to help him apply these techniques.

It's true that all these activities, provided they are handled properly, can help the supervisor to improve his employee relations; but he should realize that he is not likely to improve relations via a given technique just because his company has one and he has been told to use it. If the supervisor doesn't have the will to use the technique or the faith and enthusiasm in and for it, then it will be just about worthless to him.

Believe In What You're Doing

It has been proved again and again that where deep faith and enthusiasm exist, ways and means will be found to reach the objective. If this is the case, then the supervisor should strive to get faith in and enthusiasm for all relations-improving techniques before he tries to use them. When he does, he is well on the road to improving his relations with the people he supervises.

The personnel department can usually help a supervisor get faith in and enthusiasm for a specific technique, but the supervisor himself must work twice as hard to reach this objective. Usually faith and enthusiasm grow as a man gets more and more experience behind him in a specific technique.

A supervisor may find that it is necessary to deal with, say, 25 employees. These 25 individuals are all different, and this fact really makes the supervisor's job confusing. One employee likes a lot of praise. Another needs very little praise to feel on the best of terms with the supervisor. One man likes the boss to visit him when he is sick. Another would not approve of such a visit. Differences such as these are many and often give the supervisor a good excuse to just "treat 'em all alike"—the worse thing he could possibly do in the name of employee relations. The supervisor should accept the fact that people are different and make the best of it.

Treat Workers As Individuals

A supervisor really has to know the individuals he supervises if he intends to obtain and maintain good relations. He must be a Mr. Anthony or a visiting nurse to those employees who expect him to be, or his relations are headed for a fall. Many supervisors become frustrated right here and are inclined to give up. They shouldn't. Today we have many aids that will help a supervisor with this problem, and the personnel department is always ready to assist him in this area of his job.

In addition, we all have the Golden Rule, which should never be overlooked in our attempts to improve relations with an individual. Remember that the Golden Rule was given to us by the greatest expert on human rela-

(*Continued on page* 180)

Cook

PATENTED P&N

...THE ONLY COMPLETELY AUTOMATIC CLOTH OPENING RANGE

Just one man

- a. Removes twist
- b. Removes tacking thread
- c. Opens cloth
- d. Extracts water
- e. Folds cloth

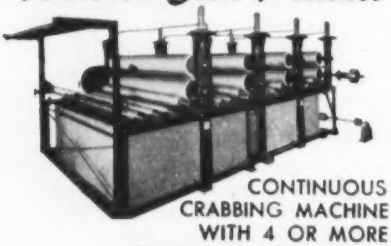
VACUUM EXTRACTOR

On certain fabrics, squeeze rolls can be replaced by this Cook Scutcher with extractor.

Only one operator handles the entire detwisting, (detacking if required), opening, extracting and folding operations. WOOLENS, WORSTEDS, BLENDS, SYNTHETICS and COTTONS, wide or narrow, light or heavy fabrics are safely handled at speeds up to 70 yards per minute. Only one manufacturer — Cook — has the know-how to build this range. Only one manufacturer — Cook — accepts the responsibility for the satisfactory operation of all the machinery as a unit.

The range is composed of proven machines, synchronized for variable speeds and utilizes electric-eye stop motions throughout. The COOK DETACKER (shown at left) operates at the most advantageous point, after the twist is removed. If you are using one of the 700 Cook Detwisters now in operation, you know Cook machines are dependable. If we are new to you, won't you send for our complete catalog?

Another Cook Product



CONTINUOUS CRABBING MACHINE WITH 4 OR MORE STAINLESS STEEL BOWLS

COOK-P&N MACHINE CO., INC., 365 DORCHESTER AVE., BOSTON 27, MASS.

For more information, write direct or use Reader Service post card.

Exploring

The Textile Community

A Big-City Mill Cultivates A Small-Town Spirit

▶ It was a little thing: a snapshot tacked on a bulletin board. But it helped change bad feelings to good will in a plant that had been having trouble with its workers. Here's what happened when a group of disgruntled employees began to see each other as people with mutual interests, rather than common complaints.

By MILDRED BARNWELL ANDREWS

THE PLANT LOOKED LIKE many another textile mill. As we walked through the departments there was nothing exceptional in the layout, lighting, or operation; it was just a well-kept, active, efficient plant. Yet I could feel an unusually fine spirit among the employees. Certainly, the mill was doing a fine job on safety, good housekeeping, group insurance, and other employee benefits. But there was something more in that mill: a spirit of comradeship. And to my question of how-do-you-get-that-way, I had this explanatory answer: "It's the Friendship Board."

"It's truly remarkable," said the superintendent, "to see the change that has come over our employees since Miss Minnie started the Friendship Board. We had been having trouble; nothing we could put our finger on, but an untraceable bad feeling among our people. The grievance committee always had a stack of complaints before it, complaints that honestly had no foundation in fact—just chips-on-the-shoulder things. It sure was discouraging. Being a plant in a rather large city, we didn't seem to have the community spirit you find in smaller towns.

"Then one day, Miss Minnie, who has worked in the spinning room a long time, thumb-tacked a picture on our bulletin board. There it was, among all the notices and dusty old rules and regulations—a snapshot of Miss Minnie and her three little grandchildren on the beach.

"No one had bothered to ask her where she spent her vacation. No one knew about her family. No one cared. But when that picture appeared, the pride and happiness in her face was reflected, without words, throughout the department.

"A day or so later another picture was tacked up. And, for the first time, some of our folks who had been working in the same division ever so long began to get real friendly. Conversation was of mutual interests instead of gripes and complaints.

"Pretty soon hobby pictures appeared. There was Sam Smith working on his boat. We didn't know he had a boat or liked to fish. Then someone else put up a picture of his wife at Niagara Falls. Another showed his prize-winning gladiolus. Well, it just grew and grew. Birthday greeting cards and other gay messages appeared on the boards, and the idea of the Friendship Board was born.

"The rules notices came down. They're posted in the hall now. The board got a fresh coat of paint, and we've enlarged it three times. It has become a popular symbol, as well as a spot to exchange friendly messages. The idea caught on and the other departments started posting personal messages of good will and interest in the well-being of their fellow workers.

"Sometimes the messages carry sympathy, sometimes congratulations, but they indicate the awareness of day-to-day living among our employees. A board committee keeps track of the displays, and after a week the old message or picture or card is taken down and returned to the owner. We have a constantly rotating exhibit."

I stopped at the board and examined the cards and messages. That particular day, a panel was devoted to messages of sympathy to a bereaved family. They were posted so thickly they overlapped. Below the panel had been placed a small bank-like box with the words, "Contribute this day to the Cancer Fund." The box was filled to the brim in memory of someone who had served his last day with his friends in that division.

As we resumed our walk through his plant, the super continued, "It's been a long time now since our mill has been troubled with the old-time unrest that was so hard to analyze. We like one another better because we know one another better. We understand the other fellow's problems, his interest, his hobbies. The board offers an outlet for emotions.

"The Friendship Board has created such a strong bond of community spirit that it has given our people a psychological uplift that pays off in real dividends to our plant. Our production efficiency has increased and our labor turnover has decreased.

"Well, I wouldn't want to operate a plant without the Friendship Board incentive and the bond of human interest it creates," he said, and I knew the words came from his heart.

A Friendship Board is a simple, inexpensive, self-perpetuating type of communication that nourishes fundamental community understanding. Why don't you start one in your mill?

ALEMITE OIL-MIST

saves Hoover $3670 in 15 months!

eliminates bearing failures... slashes maintenance costs!

The Hoover Company, the world's oldest and largest manufacturer of electric cleaners, recently faced a rash of costly repairs on key machines in their North Canton, Ohio plant. Replacement parts and labor ran excessively high . . . down-time mounted . . . production schedules lagged.

To help solve these problems *quickly*, an Alemite "Friction Fighting" specialist was called in to work with plant engineers. After careful study and analysis, Alemite Oil-Mist Systems were recommended and installed.

Results were astounding!

Universal joints on a drilling machine, *formerly replaced every 10 days*, have been giving trouble-free service for 15 months! . . . Savings—$2250!

Maintenance costs due to overheating on another high speed machine—*ended!* . . . $900 saved!

Bearings, previously replaced every 4 months on a polishing machine, *are still on the job after 10 months* . . . Again, a saving—$520!

Parts spoilage drastically cut! Oil traces, as revealed under black light inspection, *eliminated!*

Facts prove this *"Friction Fighter"* most efficient, continuous, fully automatic lubrication system

Industry everywhere relies on Alemite—the world leader in lubrication methods. Oil-Mist, one of Alemite's greatest developments, is the system that *atomizes* oil into mist—distributes it through tubing to bearings—bathes all surfaces with a cool film of clean oil. A miracle of efficiency, Oil-Mist has no moving parts—eliminates the human element. Proved *on the job* in numerous applications throughout industry, Oil-Mist uniformly maintains oil film on plain and anti-friction bearings, gears and chains—despite variations in load, temperature or speed. Why not get the facts on Alemite Oil-Mist—*today?*

ALEMITE OIL-MIST Lubricates All Types of Mechanisms

Alemite OIL-MIST Lubrication

A PRODUCT OF SW STEWART-WARNER

Compare all these OIL-MIST advantages with *ordinary* methods!

- Reduces bearing temperatures as much as 20%.
- Continuous, uniform lubrication of all types of bearings.
- Air pressure seals bearings against dirt.
- Reduces oil consumption—up to 90%.
- Prevents product spoilage.
- Eliminates guesswork—each bearing picks up as much Oil-Mist as it needs.
- Reduces starting and running torque.

Get the facts NOW!

Alemite, Division of Stewart-Warner, Dept. J-73
1850 Diversey Parkway, Chicago 14, Illinois

☐ Please send me a FREE copy of your new and complete OIL-MIST catalog.

☐ Please have your Alemite Lubrication Representative arrange a desk-top demonstration of OIL-MIST. This entails no cost or obligation on my part.

My name .....

Title .....

Company .....

Street .....

City ..... State .....

TEXTILE Equipment NEWS

Tricot Machine Knits Faster, Weighs Less

Quality fabrics can be produced at speeds in excess of 500 courses per minute on the new tricot machine, Model D, that has been brought out by Whitin Machine Works, Whitinsville, Mass. The higher speed has been obtained by removing 450 lbs. from the motion area and yet retaining strength and rigidity.

Precise runner control is maintained by a self-correcting yarn let-off. A positive drive is given to each warp beam. The sensitivity of correction for the changing diameter is said to eliminate shade marks. The correct amount of yarn is fed to the needles at all machine speeds as the let-off motion is driven directly from the camshaft.

A Diehl drive that is very compact and gives rapid starts and stops has been made standard equipment. The drive provides an unlimited range of control for inching without complicated electrical controls or clutches. The drive is an inverted-type motor that uses flywheel force for increased acceleration, with a built-in brake-clutch assembly to disengage these forces for instant stopping.

DIEHL DRIVE applied to the new Whitin tricot machine gives rapid starts and stops and requires no complicated controls for inching purposes. The knitter runs over 500 courses per minute.

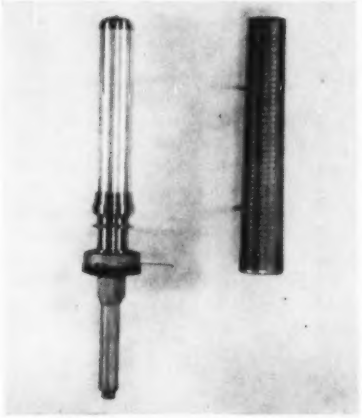
Needles are always in their down position when the machine stops.

The fabric take-up motion has been redesigned to allow accurate control for the wider range of fabric qualities demanded today.

With further thought to wider pattern requirements, a new guide-bar return mechanism has been designed with an equalizing spring. The guide bars are positively locked down while the machine is in motion but can be lifted for easy threading by suspending on convenient hooks. Chrome-plated slide bars and slides are used to reduce frictional wear.

Circle T-1 on Reader-Service Card

Paper-Bobbin Spindle Spins 50% More Yarn per Doff



INCREASED FRAME EFFICIENCY is possible with the new ball-bearing spindle that allows paper tubes to be used as the yarn carrier instead of the usual wooden bobbin. Yarn weight per package is increased, and larger spinning assignments are possible.

Circle T-2 on Reader-Service Card

A new antifriction ball-bearing spindle for use with paper tubes has been developed and put into successful operation by Davis & Furber Machine Co., North Andover, Mass., and Charlotte, N. C. The spindle is equipped with a foot-step dampening device that requires lubrication only every two years or so.

Bobbins are positively gripped by centrifugal force and are evenly seated throughout the frame. The spindle has a finger-operated brake, which stays on until released so that piecing up will be easy for the operator.

No important changes are necessary on present spooling, dressing, and winding equipment to accommodate the new bobbin. A package 13 ins. long over-all, with a traverse of 12 ins., is made. Yarn weight per bobbin will vary from 19 to 26 oz.—approximately twice as much yarn as is wound on the ordinary wooden bobbin.

The longer interval between doffs means increase frame efficiency as well as more spindles per frame tender without her expending additional effort.

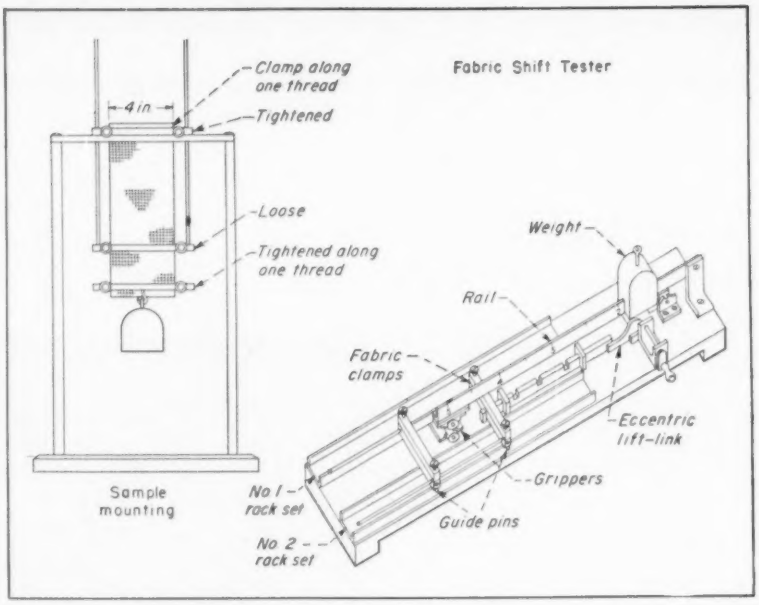
Fabric Yarn-Shift Tester Replaces Thumb-and-Finger Method

A fabric shift tester and a standard test method for use in determining the extent of yarn shift in a fabric has been developed by United States Testing Co., Park Ave., Hoboken, N. J. The testing unit and procedure are designed to aid mills in ascertaining the amount of instability there is in interlaced yarns in certain fine-fabric construction, particularly when they are woven in low counts and with filament yarns.

Samples are mounted as follows:

1. Remove one or two yarns from the 4-in. edge to produce a yarn line, align in the top jaw of the fabric clamp, and tighten.
2. Feed fabric through the lower clamp and into weight clamp, and align both horizontally and perpendicularly.
3. Tighten the lower clamp.

The tester is operated by making a one-half revolution of the crank to bring the rack to a full rear throw, and then by lifting the arm and returning the rack to a full forward throw by another half-revolution of the crank.



ELIMINATION OF HUMAN ERROR in testing for yarn shifting is made easier by this new tester and a test procedure that would standardize fabric-shift determinations.

Circle T-3 on Reader-Service Card

Solution Particle Size Reduced by New Unit

A VARIABLE-SPEED HOMOGENIZER and dispenser that operate at 2,500 to 25,000 rpm. has been developed by Tri-Homo Corp., 190 Highland Ave., Salem, Mass., in which both heavy and light viscous compounds can be reduced in particle size, ground dispersed, milled, emulsified, homogenized, wetted, or blended. Units with up to 25-gals.-per-min. production are available in laboratory models, while unlimited capacities are possible in production models.

The particle size of the resultant product is obtained by setting the micrometer-type hand adjuster, graduated in thousandths. Overheating is prevented at all times by correct speed regulation and a water-cooling jacket.

Various types of rotors and stators, plain or in many serration designs, are available for the particular viscosity of size and end use planned.

Circle T-4 on Reader-Service Card

Improved Sanforized Machine Smooths Both Fabric Sides

A high-speed rubber-belt compressive-shrinkage machine that makes it possible to turn out Sanforized cotton fabrics with a consistently smooth finish on both sides has been announced by Cluett, Peabody & Co., 10 E. 40th St., New York, N. Y. The machines will be built by licensed machinery manufacturers here and abroad.

Complete shrinkage control is offered by the machine. To obtain the desired shrinkage, the usual wash tests for determining the potential shrinkage have to be done ahead of time, and an evaluation made. The machine is then set to bring the fabric within the 1% residual shrinkage required for the use of the Sanforized label.

Production speeds up to 100 yds. per min. have been obtained on large lots. The yardage life of the rubber belt promises to be upwards of 4-million yds. The belt must be ground approximately every half-million yards to maintain its smooth surface.

For this grinding, a special grinding roll is supplied with the machine. Except for the grinding, which is done without removing the belt, the belt never needs to be changed.

The compressibility of the thick rubber belt and the pressure it exerts when compressed give perfect contact between the belt and the fabric and between the fabric and a steam-heated metal drum, without the necessity of the usual heated metal shoes.

The belt, carrying the fabric, is squeezed as it moves between a pressure roll and the metal drum. The ensuing recoil of the belt compresses lengthwise the damp, warm fabric in contact with it and compressively pre-shrinks it to whatever degree is necessary—the fabric's under surface contacting the belt and the upper surface the cylinder.

Circle T-5 on Reader-Service Card

SERVING THE TEXTILE INDUSTRY SINCE 1899

SONOCO

Headless Package Tubes

Precision Paper Products

In keeping pace with the ever-changing textile industry and its requirements, SONOCO has conducted unending research and product development. The result of these efforts has enabled SONOCO to supply the "right" carrier for a specific yarn when needed. SONOCO headless package tubes can be impregnated, polished, sized, scored, notched and printed or lacquer tipped. Available in regular, embossed, Unitex or velvet surface. All standard types and sizes, or made to your specifications.

sonoco SERVES THE WORLD PAPER CARRIERS REG. U.S. PAT. OFF.

SONOCO PRODUCTS COMPANY

MAIN OFFICE—HARTSVILLE, S. C.

MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS.
PHILADELPHIA, PA. AKRON, IND. GARWOOD, N.J. GRANBY, QUEBEC

DEPENDABLE SOURCE OF SUPPLY

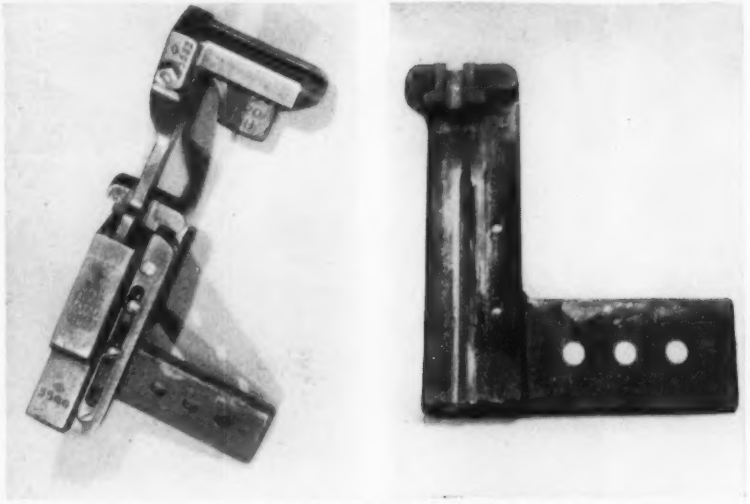
Shank Support and Guide Prolongs Temple Life

A new-type temple stand has been developed by Harrison Loom Improvements, 129 Pierrepont St., Brooklyn 1, N. Y., as an improvement over the present one now in use on most looms. It has an additional support and guide for the lower end of the temple shank and is designed to allow a worn shank and temple to be used for a much longer time than has heretofore been practicable.

The ordinary temple stand has been extended, and two upright guide posts have been added, with a graphite-impregnated nylon bushing inserted for the temple shank to rest in.

The following advantages are to be obtained from the improved stand:

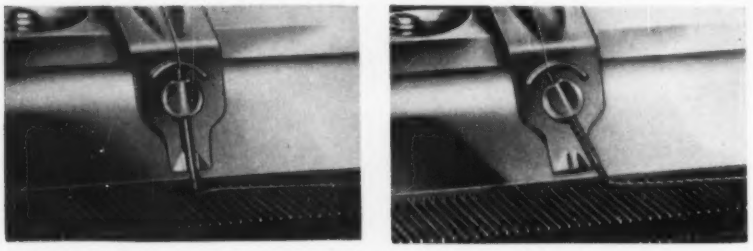
1. Increased support; so there is longer life for the temple, temple rolls, and thread cutter
2. Elimination of riding of the lay and damage to the race plate by the temple
3. Stafford thread cutters that will cut more clearly on yarn changes
4. Elimination of temple marks on the cloth
5. No sliding forward of the temple if the screws loosen
6. Need for less lubrication around the temple and the temple stand
7. Prevention of temple-shank breakage



NYLON BEARING supports the temple shanks. The improved temple stand prevents shank breakage and also prolongs the wear life of the temple components.

Circle T-6 on Reader-Service Card

Safety Tube Prevents Carrier and Sinker Damage



YARN CARRIER, when it is operating, is in the vertical position (left). When the carrier accidentally strikes a sinker, it is sprung out of position (right), where it remains until it is reset.

A safety carrier designed to eliminate the damage that occurs when the yarn carrier of a full-fashioned machine gets out of time with the sinkers has been put on the market by Textile Machine Works, Reading, Pa. The carrier is very light and can be fitted to all postwar Reading machines.

At the tip of the carrier is a rotary turret in which there is a tube retained by spring tension. The tube can be changed rapidly. Finger pressure unsnaps it from the locked position and rotates it to a horizontal position, where it is removed from the turret by the finger and thumb.

During knitting, the tube is located in a vertical position and feeds the yarn to the sinker throats. If the tube strikes a sinker, the impact overcomes the tension holding the tube in its vertical position and allows it to swing to one side. The tube remains clear of the sinkers until it is reset by the machine tender or fixer.

Drag on the yarn through the carrier has been reduced by a concave center rib that forms a channel and contact-free passage for the yarn from the holder to the tube.

Tension on the turret is regulated by bending the tip of the carrier. A special tool is provided to do this job, and a torque gauge is supplied to test the tension on each turret.

Circle T-7 on Reader-Service Card

Junior Adjustable-Speed Drive Has Design Refinements

ALL-ELECTRIC ADJUSTABLE SPEED DRIVE of ¾-, 1-, 1½-, 2-, and 3-hp. ratings has been announced by Reliance Electric & Engineering Co., 1088 Ivanhoe Road, Cleveland 10, Ohio. Called the V°S, Jr., the new unit incorporates several design refinements over its larger counterpart introduced in 1950.

Stepless adjustable speeds from a.c. circuits are provided to give constant torque. The junior unit operates at speeds of 270 to 2,300 rpm. and as low as 75 rpm. for setting-up operations, light loads, or intermittent duty. Components are a drive motor, the operator's control station, and the control unit.

Circle T-8 on Reader-Service Card

They're Smooth — Lightweight — Durable!

IDEAL FOR TEXTILE MATERIALS HANDLING

Spaulding Vulcanized Fibre Receptacles meet every requirement for handling textile materials. They're ***tough*** with high resistance to impact and abrasion. They're smooth. Materials can't catch on them. They're ***lightweight*** for welcome ease in moving about. Streamlined design, fine fabrication and freedom from damage by oils, greases or moisture are other features that make them favorites in the textile field. Available as boxes, barrels, baskets, cans and trucks in a wide range of sizes.

Spaulding

FIBRE COMPANY, INC., TONAWANDA, N. Y.

SPAULDING BRANCH SALES OFFICES

BOSTON 16, MASS.
585 Boylston St.

BRIDGEPORT 5, CONN.
2889 Fairfield Ave.

CHICAGO 25, ILL.
4770 Lincoln Ave.

CHICAGO 38, ILL.
5604 West 63rd St.

CLEVELAND 14, OHIO
2108 Payne Ave.

CLEVELAND 16, OHIO
19035 Detroit Rd.
Rocky River

DAYTON 2, OHIO
136 South Ludlow St.

DETROIT 1, MICH.
4612 Woodward Ave.

FORT WAYNE 6, IND.
2301 Fairfield Ave.

LANSING 10, MICH.
2021 South Cedar St.

LONG ISLAND, N. Y.
90-34 Jamaica Ave.
Woodhaven 21, L. I., N. Y.

MILWAUKEE 8, WIS.
3329 West Vliet St.

NEW YORK 55, N. Y.
384 East 149th St.

NEWARK 2, N. J.
965 Broad St.

PHILADELPHIA, PA.
702 Federal St.
Camden 3, N. J.

ST. LOUIS 5, MO.
34 North Brentwood Blvd.

TONAWANDA, N. Y.
310 Wheeler St.

LOS ANGELES 5, CALIF.
C. D. LaMoree
1325 San Julian St.

BERKELEY 10, CALIF.
C. D. LaMoree
2221 Fourth St.

TORONTO 18, ONT., CANADA
A. A. Andersen & Co.
28 Jackson Ave.

Mail Coupon For Full Information

SPAULDING FIBRE CO., INC.
TONAWANDA, NEW YORK

Please send me your complete catalog of Spaulding Fibre Receptacles.

Name _____

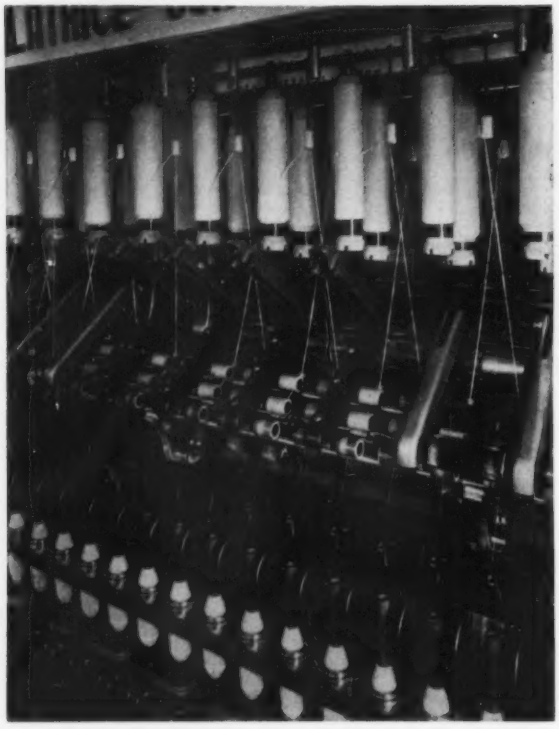
Company _____

Address _____

City _____ *Zone* _____ *State* _____

 For more information, write direct or use Reader Service post card.

Italian Cotton Frames Have Advanced Features



SPRING-PRESSURE DEVICE of the Cogne cotton spinning frame makes it easy to release and reset the top drafting rolls and thus to speed threading in, cleaning around the rolls, and regular maintenance programs.

A line of Italian cotton spinning and twisting frames —320 to 500 spindles per frame, from 2¼ to 4 gauge and 1½- to 2¾-in. ring diameter—is now available in the United States from Stellite American Corp., 60 E. 42nd St., New York 17, N. Y. Spindle revolutions per minute run from 4,675 to 11,250. Manufacturer is Nazionale Cogne Società of Imola, Italy.

Features of the machines are a gear box in an oil bath that has only a lever to be moved when one wants to change to a new draft, a patented swinging arm for lifting the top drafting rolls out of the way, an improved LeBlanc-Roth high-draft assembly, one driving tape to every four spindles, constant-size balloon during the building of the entire bobbin, tachometers for determining spindle and draft-roll revolutions per minute, and variable-speed motors.

Circle T-9 on Reader-Service Card

Overhead Extension Carries Around Pillars

LOADS OF 1,500 LBS. are easily handled beyond the end of a crane with this cantilever carrier. The hoist hook at one end is reeved to the electric motor at the other end.

A new-type overhead carrier with a cantilever arrangement that permits the unit to handle loads beyond the end of the crane on which the carrier operates has been developed by Cleveland Tramrail Div., Cleveland Crane & Engineering Co., Wickcliffe, Ohio.

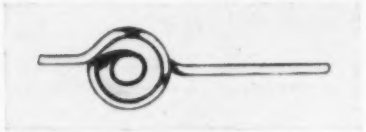
The carrier has been designed to take care of handling of materials in areas between roof-supporting pillars that cannot normally be covered by cranes, and also for reaching through doorways.

The extension feature of the carrier, illustrated, permits the hoist to reach out more than 2 ft. beyond the end of the crane. When it is necessary to travel the crane for some distance on its overhead runway, the carrier can be moved back away from the crane end to permit safe clearance of any nearby columns.

The unit has a capacity of 1,500 lbs. Other cantilever carriers of different load capacities and reach can be made to suit particular conditions.

Circle T-10 on Reader-Service Card

New Thread Guides Last for Years



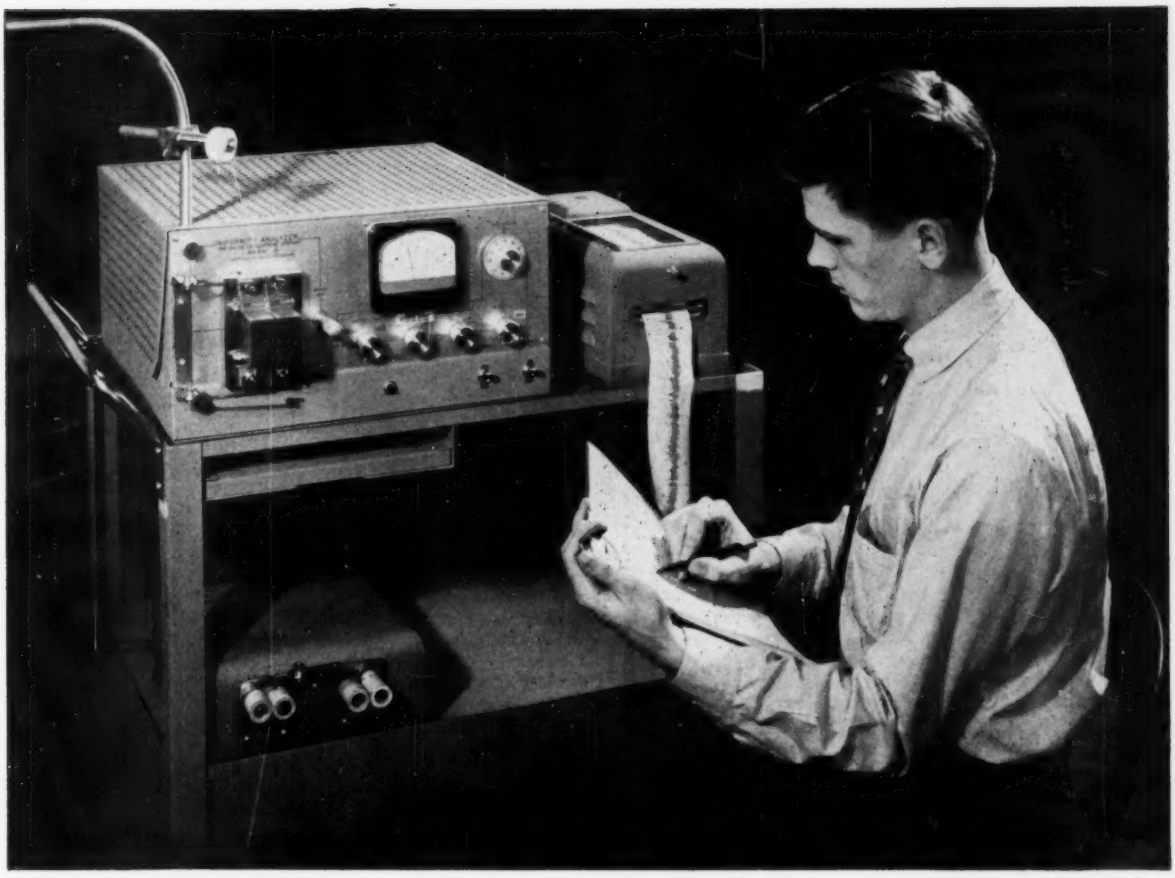
INSERT of the new material in the pigtail virtually eliminates the need for future changes in the guide ordinarily made necessary by abrasion from yarn going through.

Heanium, a wear-resistant material of extreme hardness and chemical inertia, has been developed by Heany Industrial Ceramic Corp., 915 Whitney Ave., New Haven, Conn., for use in thread guides, compressors, rolls, and eyelets. Guides made with the new material and running all types of fibers are reported to outlast other materials by as much as two to six years.

Circle T-11 on Reader-Service Card

Most acids have no effect on the material. Physical characteristics of the material make for excellent dimensional stability. Intricate designs of great accuracy can be produced on order; polished slots as narrow as 0.015 in. are possible.

A choice of finishes is offered for the desired tension control: matte, satin, or highly polished.



High speed testing...

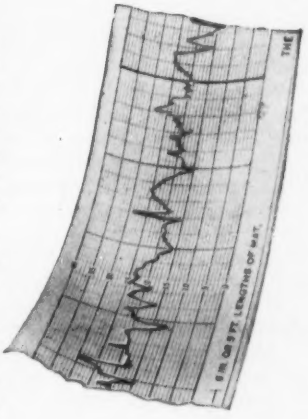
grades 1,000 feet of yarn in three minutes!

Here is the fastest method you can use to check and grade the uniformity of yarn, roving, or sliver. With the Brush Uniformity Analyzer*, you can test a 1,000-foot sample in little more than three minutes—a fraction of the time required by other methods. Thus the instrument is practical for regular mill service, in addition to research and development work.

The Uniformity Analyzer, originally designed by the Institute of Textile Technology, provides a definite numerical value for quality of the material. The chart record, which is available immediately, aids in trouble shooting, and exact quality control. The instrument can be operated by anyone after brief instruction.

You can depend on sustained high accuracy regardless of speed of testing. A zero line is recorded on the chart, thus reducing drift errors and changes in average yarn count. With the zero line recorded, the operator knows the true mean of the yarn sample. Three averaging circuits make it easy to spot periodic faults in the yarn. Long-term variations are apparent.

A staff of textile-trained engineers is available to assist you in application, service, and evaluation of data. In southeastern states our representative is W. A. Brown and Associates. For complete information, write Brush Electronics Company, Dept. GG-7, 3405 Perkins Ave., Cleveland 14, Ohio.



This sample chart of roving indicates gross deviation from nominal weight per unit length. Irregularities as short as ½ inch in a length of yarn can be detected.

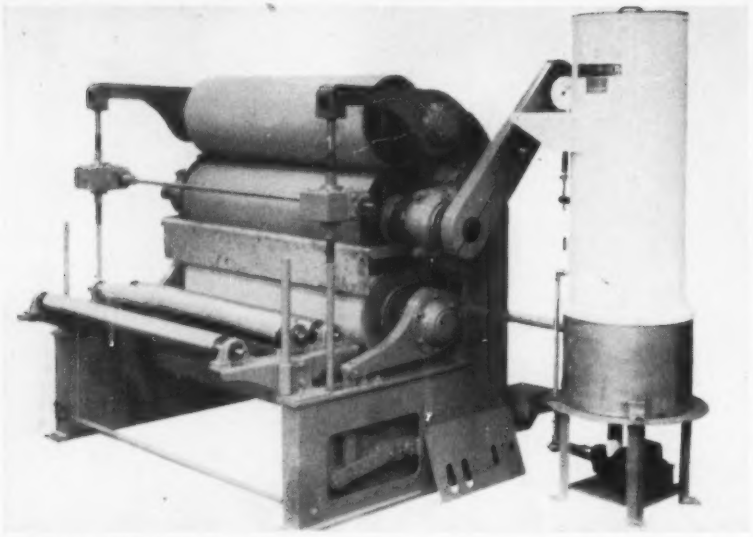
*Trademark

BRUSH ELECTRONICS COMPANY

formerly
The Brush Development Co.
Brush Electronics Company
is an operating unit of
Clevite Corporation.

INDUSTRIAL AND RESEARCH INSTRUMENTS
PIEZOELECTRIC MATERIALS • ACOUSTIC DEVICES
MAGNETIC RECORDING EQUIPMENT
ULTRASONIC EQUIPMENT

Lever Set Padder Has Driven Middle Roll

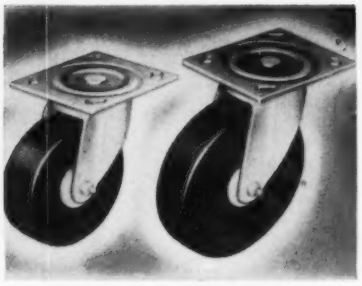


A MIDDLE-ROLL DRIVE for 10-ton pressure and a worm-and-wheel elevating mechanism are the outstanding features of the new lever set padder developed by Cook-P&N Machine Co., Inc., 365 Dorchester Ave., Boston 27, Mass. The driven middle roll eliminates slippage at the nips and also assures equal pressure at both nips.

The chain drive to the top roll has been eliminated. All fulcrum points on the padder are equipped with the company's new knife-edge pins for the elimination of unequal pressure.

Circle T-12 on Reader-Service Card

Easier Caster Swiveling Obtained by Double Races



NEW 5- AND 6-IN. CASTERS featuring double ball-bearing swivel action for easier handling of movable equipment have been added to its "68" series of casters by Bassick Co., Bridgeport, Conn. The new casters feature fully casehardened raceways for extra durability and service life.

The new casters are recommended for trucks and other miscellaneous portable equipment for loads up to 1,400 lbs. Rigid casters to match the swivel type are also available.

Both sizes are offered with soft rubber tread and solid-composition molded wheels with 1½-in. tread widths and are furnished with roller bearings and thread guards.

Circle T-13 on Reader-Service Card

Metal-Finishing Process Relieves Yarn Friction

Vapor blasting, which is the bombardment of a metallic surface with an abrasive material that is suspended in water and is projected through a blasting nozzle at a high velocity inside a watertight cabinet, has been made available as an individual-mill shop operation by Vapor Blast Mfg. Co., 3025 W. Atkinson St., Milwaukee, Wis. Called "liquid honing," the metal-treating process gives a low-friction surface finish of controlled uniformity to such items as spinning rings, tension disks, loom reeds, turning rods, pigtails, and steel twisting rings.

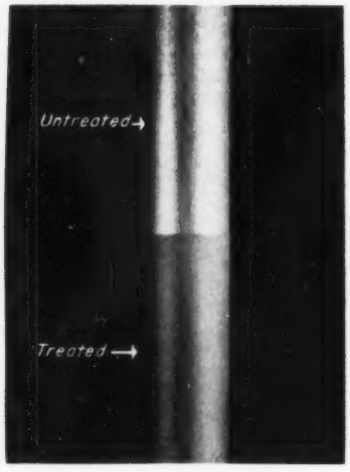
Yarn friction is reduced because the honing process results in a nonglaring, infinitesimal peak-and-valley surface that cuts down on the amount of metal coming into contact with any yarn that moves across the surface.

The process has no measurable effect on the dimension of the piece treated. Tests show that dimensions within 0.0001 in. are not disturbed by liquid honing. Various finenesses of abrasives are used as required.

The effect of the process on loom reeds is to reduce polishing time and to assist in the economical repair—derusting and cleaning—of the reed.

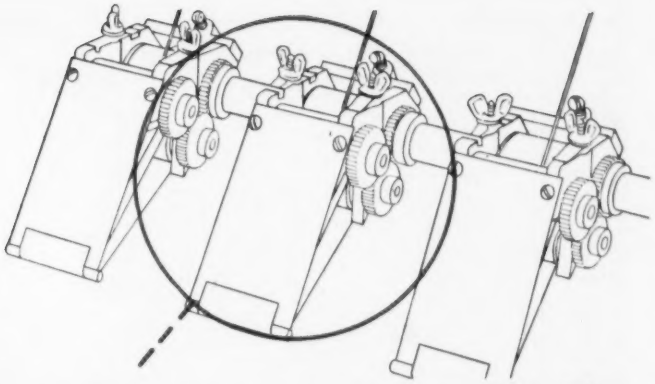
In processing, the reeds (or any other part) are run through an enclosed cabinet, end to end, and blasted with multiple fixed guns employing 5,000-mesh abrasive. The reeds move past the blasting nozzles either mechanically or drawn by hand.

Varying degrees and types of surface finishes can be obtained by adjusting the abrasive size (from 50 to 5,000 mesh), air pressure, length of blasting time, distance of gun nozzle from the part, the angle at which the gun is held, and the concentration of the abrasive in the liquid-honing solution.

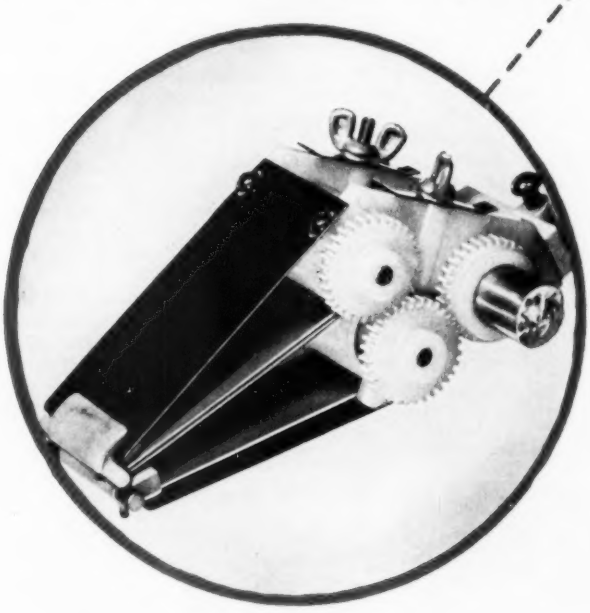


NONGLARING FINISH given to machinery parts that come in contact with yarn by this liquid-honing cabinet assembly makes for less tension and friction on yarn in process. The cabinet has strong fluorescent lighting, a nonbreakable window, and air-pressure controls located at the operator's knee. Rubber gloves protect the operator's hands.

Circle T-14 on Reader-Service Card



Parts of Du Pont nylon stop yarn contamination



Parts molded for
Macdonald and Sons, Inc.,
by Plastic Mold and Engineering Co.,
both of Providence, R. I.

in spinning process . . . need no lubrication, last longer, improve yarn quality

Long draft units, used during spinning to give rough yarn strength and uniformity, have always proved troublesome. The moving parts wore and abraded . . . required oiling. Resultant yarn contamination was a constant problem. Maintenance required complete machine stoppages to remove and replace one unit. Production suffered . . . costs increased.

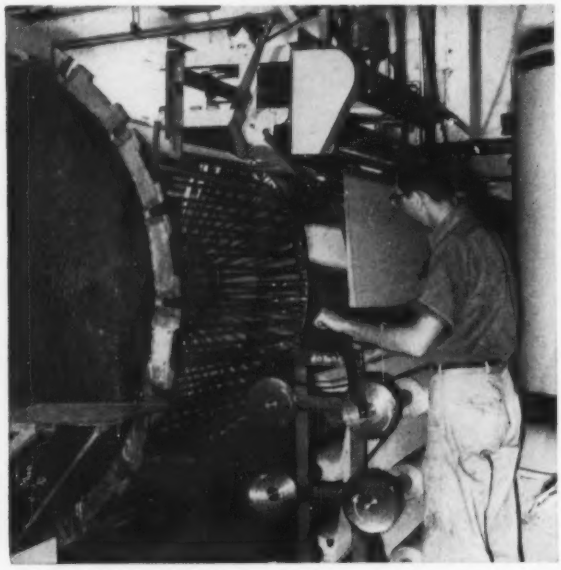
In designing an improved unit, as illustrated, Macdonald and Sons, Inc., overcame these problems and developed, at the same time, a unit that improved yarn quality. They specified that all moving parts and bearing surfaces be molded of Du Pont nylon. The nylon parts need no lubrication, yet they resist abrasion and actually outwear their counterparts by several times. (Several nylon units were operated continuously for 16,000 hours—equivalent to 8 years of 40-hour weeks—without failure or appreciable wear). Du Pont nylon is tough . . . does not chip or crack . . . is unaffected by temperatures to 250°F. It absorbs shock . . . damps noise and vibration. And nylon's strength and resiliency allow the operator to remove and replace units while the machine is operating—without damage.

Du Pont nylon helps produce a better yarn, free of contamination. Costs are lowered . . . production increased.

Du Pont nylon is serving the textile industry in many ways—contributing to better performance often at lower cost. Perhaps it can help you solve a problem or improve a process. For full information, write: E. I. du Pont de Nemours & Co., (Inc.) Polychemicals Department, Room 187, Du Pont Bldg., Wilmington 98, Delaware.

DU PONT
REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY
Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS

Pressurized Fabric-Dyeing Machine Is Simplified



IMPROVED BAROTOR, developed further in the 11 months since the original model was introduced by E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del., now has fixed bars instead of dropping bars. In addition, the number of bars has been reduced to less than 20% of the number needed to dye a 1,000-yd. batch in the former model. The need for expensive automatic loading and unloading equipment formerly thought necessary has been reduced.

Rapid unloading is accomplished during counter rotation by one operator winding up the fabric on separate mandrels (above) while the other operator feeds the inner bars back to the loading racks.

Circle T-15 on Reader-Service Card

Hand Lift Truck Handles Both Pallets and Skids

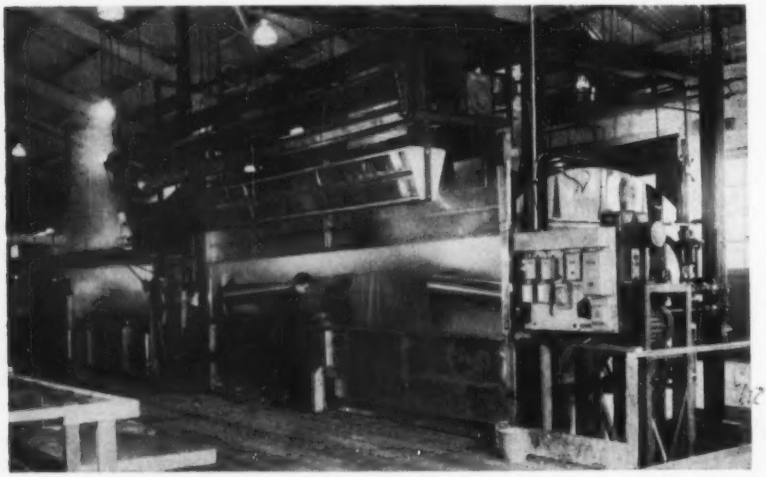
HINGED SUPERFRAME made for its hydraulic JackLift truck makes it possible for this manufacturer (Lewis-Shepard Co., Walnut St., Watertown, Mass.) to offer the same truck for handling materials on both pallets and skids.

When this frame is in its Down position (above), the truck will operate with skids like any hydraulic platform type. The frame can be made to accommodate any skid underclearance. When the frame is swung up, it is automatically secured into place and is well out of the way for pallet handling. None of the length of the pallet forks is lost when the frame is not in use.

The hydraulic pallet truck is an arc-welded, one-piece frame of strongest construction and with capacities to 6,000 lbs. The hydraulic lifting mechanism is sealed to prevent tampering, has no hose lines or couplings to cause trouble, and has no breather cap to collect dust.

Circle T-16 on Reader-Service Card

Dyeing of Cotton Carpeting Is Continuous



A NEW CARPET-DYEING MACHINE has been installed in an Eastern carpet mill by Rodney Hunt Machine Co., Orange, Mass., for the dyeing of cotton carpeting. The carpet-tufted cotton, loop, and cut pile, made with jute back—is sewed together and fed into the machine in a fashion similar to the roller-towel principle. The machine is operated in two 8-hr. shifts.

While the machine is already operating satisfactorily, it has not been installed long enough for the manufacturer to be able to comment specifically on such factors as advantages, problems solved, and operation in continued service.

Circle T-17 on Reader-Service Card

Free-Running Caster Has No Sharp Edges

BALL-BEARING MACHINED-TREAD WHEELS that have a large radius at the wheel edge to protect mill floors have been made available by Vesco, Inc., 5023 Wilkinson Blvd., Charlotte, N. C. Other advantages are (1) the nongreased bearings that are stronger than stamped raceways with balls attached, (2) a tread thickness of ¼ in., (3) thread guards, (4) flush Alemite fittings, and (5) wheel diameters of 4 and 6 ins., either swiveled or rigid.

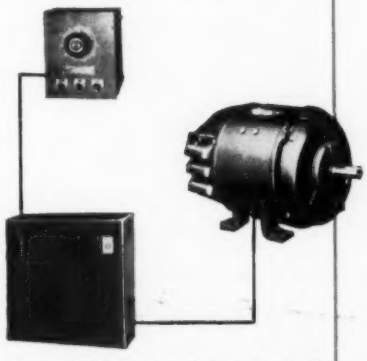
Circle T-18 on Reader-Service Card

These facts prove...

RELIANCE V★S DRIVE

will increase your production with ADJUSTABLE SPEEDS FROM A-C. CIRCUITS

The Original Packaged All-Electric, Adjustable-Speed Drive for A-c. Circuits



Conveniently packaged, factory-wired V★S Drives are available from ¾ to 300 hp. Two or more motors may be operated simultaneously from a single Control Unit.

CONVENIENT CENTRALIZED CONTROL—V★S Drive makes speed changing so easy and convenient that the most economical speed for every operation can always be used. Convenient-to-operate controls are grouped and located where your operator can easily, quickly and safely control all functions of his machine. Controls may be at the machine, or at any remote location, as desired.

STEPLESS SPEEDS—V★S Drive offers an unlimited range of stepless speeds. Operators may change to any speed while machines are running, or may pre-select any speed while machines are at rest, by merely turning the speed adjustor.

CONTROLLED ACCELERATION AND DECELERATION—V★S Drive provides positive all-electric control of torque for breakaway and for acceleration or deceleration. Speed changes may be rapid or gradual, and as frequent as desired. Shockless speed changing with V★S Drive avoids damage to delicate materials or fabrics.

QUICK, SMOOTH STARTS AND STOPS—Quick starts and stops cut lost time between operations. With V★S Drive, any load can be stopped quickly and smoothly, from either high or low speeds, through positive electrical braking that never wears out or needs adjustment.

FAST, FULLY CONTROLLED REVERSING—V★S Drive reverses almost instantly even from high speed. Frequent reversals present no problem. Reversal may be from low to high speed, or vice versa.

INCHING, JOGGING, CREEPING—V★S Drive provides inching, jogging, and creeping, for setting up, threading, positioning, or inspection. Operator can slow down a machine for inspection, then accelerate quickly and *exactly* to previous working speed.

ABSOLUTELY UNIFORM TENSION—V★S Drive maintains proper tension for roll-fed materials so that quality is unvarying throughout and all finished rolls are uniform. Succeeding operations are simplified and productivity of machines is increased. Shutdowns and rejects due to breakage of material, or fluctuations in quality, are virtually eliminated.

MULTI-MOTOR OPERATION—The V★S system makes it possible to apply power to two or more points in a machine or to operate separate sections of a machine tied together as a process. Speeds of motors can be synchronized to any desired degree.

D-1455

The Most Effective Method of Power Transmission in Industry! Write today for V★S application information and selection data. Ask for Bulletin D-2311.

RELIANCE ELECTRIC AND ENGINEERING CO.

1086 Ivanhoe Road, Cleveland 10, Ohio • *Sales Representatives in Principal Cities*

Aerosol Spray Eases Weave-Room Smash Repairs

A PRE-PACKED WATER-SOLUBLE WAX, dispensed from a pressurized aerosol can to aid smash hands in their repair of damaged warps, has been brought out by Specialty Products Co., 115 Morris St., Jersey City, N. J. It is called S-52 yarn dressing.

Sprayed lightly on broken warp ends, the compound acts as a lubricant that plasters down the broken fibers and permits them to continue on through weaving without undue interruption.

Because it is water soluble, the wax dressing is easily removed in scouring. It does not discolor the yarn. Best results are obtained in use when the compound is sprayed in a light mist at a distance of 18 to 24 ins. above the warp ends.

The dressing is effective on both filament and spun yarns. It has an antistatic effect on the newer synthetic fibers.

Circle T-19 on Reader-Service Card

Lubricating Device Speeds Overseaming and Overedging

A lubricating presser foot to be used on the overseaming and overedging machines manufactured by Merrow Machine Co., Laurel St., Hartford, Conn., reduces friction between the material and the presser foot and improves the feeding of certain materials. The device gives good results on plastic-lined articles such as table cloths, costumes, and infants' pants.

The patented presser foot is lubricated from a sight-feed oiler that uses either oil or water. The lubricant is supplied to the presser foot by means of a collector clip to catch the lubricant from the reservoir and a resilient blade to spread it on the material being sewn.

Circle T-20 on Reader-Service Card

Magnetic Brakes Control Yarn Tension Better

ADJUSTMENT OF TORQUE is done by turning the calibrated aluminum magnet housing so that the needed distance between the magnets and the hysteresis ring is obtained. The brake will thus maintain the desired tension on any type of yarn being processed.

Two new magnetic tension brakes of the hysteresis type have been developed by the Control Dept., General Electric Co., Schenectady, N. Y. With torque ranges of 0.4 to 4.0, and 2.0 to 14.0, ounce-inches, the new units supplement the company's original brake of this type that has a pulley and a torque range of 0.1 to 0.5 oz.-ins.

Designed to provide constant yarn tension during processing and thus reduce abrasion and excess flexing of yarns, the larger-size brakes are adapted for use on larger machines where a constant torque is desirable.

The two brakes are approximately 2 and 3 ins. in diameter and weigh about ¾ and 2½ lbs. respectively. They have a speed range between 0 and 1,500 rpm.

The brakes hold stalled tension by their tendency to reverse direction of rotation for a few degrees after decelerating to a standstill. Because the braking action is provided by a magnetic field, there are no rubbing parts to wear; and the unit will retain the required torque unaffected by lint, moisture, and heat.

Circle T-21 on Reader-Service Card

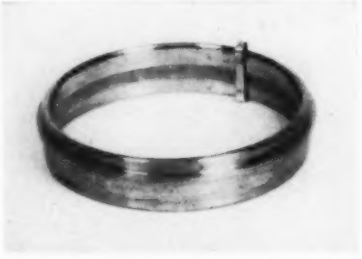
Process-Heat Controller Anticipates Temperature Variations

A NEW INDICATING CONTROLLER featuring anticipating action has been added to its Model 200 series Capacitrol line by Wheelco Instruments Div., Barber-Colman Co., Rockford, Ill. The new process-heat control, Model 221C, gives unvarying straight-line control by means of a resistor network and relay circuit that anticipates the approach and departure of temperatures caused by various heat transfer lags and load requirements.

Interchangeable voltage plugs are provided for 115 and 230 v., a.c.

Circle T-22 on Reader-Service Card

Bronze-Insert Twister Ring Uses Steel Travelers



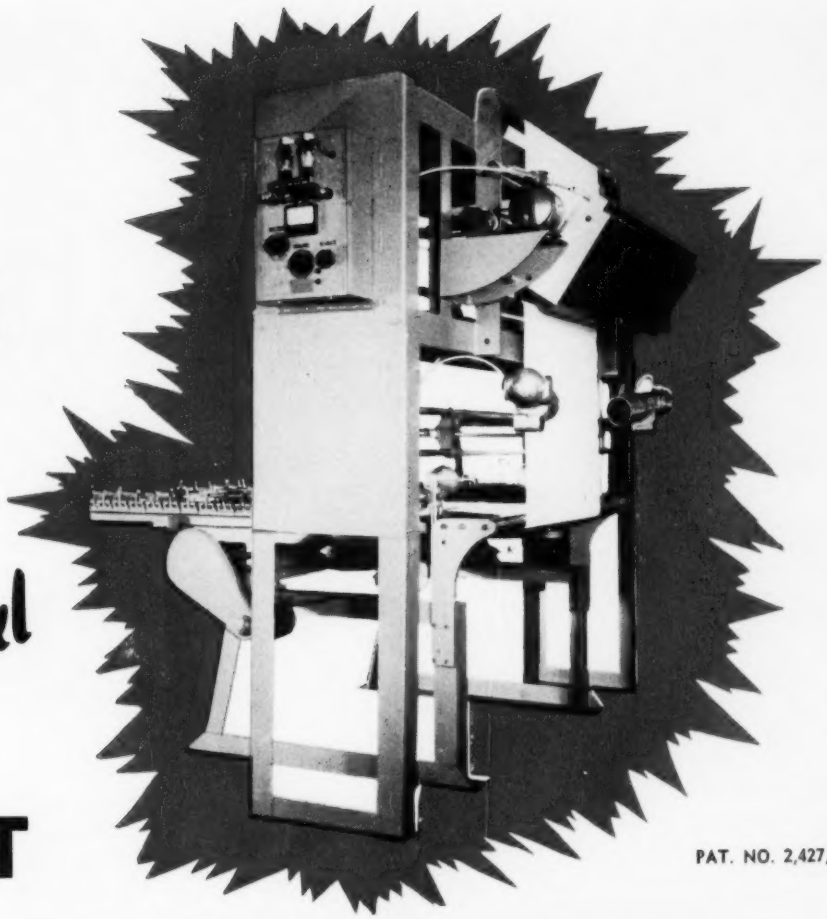
INNER CIRCUMFERENCE of the Twin twister ring has an insert of phosphor bronze that enables a long-lifed steel traveler to move around the ring at speeds higher than have been possible on all-steel rings.

A steel twister ring with a patented bronze insert built into the inner circumference has been developed by Twin Textile Ring Co., 13231 Euclid Ave., Cleveland 12, Ohio. The new twister ring can take a steel traveler successfully up to about 4,000 rpm.

Because of its longer life, the steel traveler in combination with the new bronze-lined ring gives a one-third higher rate of production than has been possible with bronze travelers on all-steel rings.

Steel travelers used with the new

The Finest in Practical WEFT STRAIGHTENING



PAT. NO. 2,427,753

Winsor & Jerauld, specialists in tentering equipment and pioneers in the development of efficient and practical cloth control, offer as a "package" device a weft straightener unit proven by leading finishing plants in its adaptability and reliability.

Practically all weaves can be handled, either of low or high count, in which the filling or weft threads give a measurable amount of reflected light.

Photo-electronic "eyes" receive a signal, originating from the reflection of a battery of lights directed at the cloth.

The intensity varies, in a manner comparable to the amount of degree of bias to be corrected, causing a group of tiltable rolls motivated by electro-mechanical methods to produce a change in the relative length of the two selvages.

Unit assembly is normally applied at the entering end of the tentering machine and may be adapted as required to conform to space restrictions.

We have more satisfactory installations than all other similar types combined.

Additional information for specific applications will be gladly forwarded upon request.

Winsor & Jerauld
MANUFACTURING COMPANY, INC.

Main Office
1268 Eddy Street
Providence 5, R. I.

Southern Division
518 Atando Avenue
Charlotte, No. Carolina

ring average a wear life of three to six months.

In addition to the higher production rate of the Twin ring, a substantial saving in twisting labor cost is possible because the travelers do not have to be renewed so frequently. Use of the new ring also eliminates all need for de-bronzing.

Less oiling of rings is required. Lubrication is positive for the lower curvature of the traveler.

Tension on the yarn being twisted and noise and vibration in the twister room are less because of the marked reduction obtained in twisting friction. Electrical costs to twist can be figured at 60% less than formerly.

Circle T-23 on Reader-Service Card

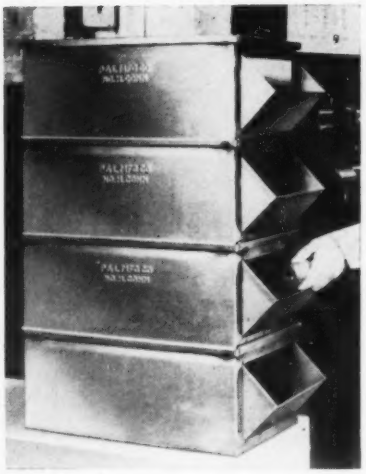
Tote Box Has Open End For Easy Access

AN OPEN-END HOPPER BOX with stacking features has been added to its regular line of sheet-metal tote boxes by Platt & Labonia Mfg. Co., 70 Broadway, North Haven, Conn.

The new all-welded stacking box is designed to insure quick and safe handling of materials during production operations in a mill shop. The hopper-opening feature combined with the stacking arrangement allows easy access to the material in all boxes while they are stacked one on top of another.

The boxes are available in eight standard sizes, with a choice of two weights of material, 16 and 18 gauge, and in sizes up to 22x12x8 ins.

Circle T-24 on Reader-Service Card



TEXTILE EQUIPMENT NEWS—Continued on page 218

NEW *Dyes* AND *Chemicals*

Vat Printing Yellow Has Good Lightfastness

A new dyestuff, Leucosol Yellow LN Paste, offered by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., is said to produce bright greenish-yellow shades on cotton of lightfastness superior to that obtainable with other vat yellows for printing. This new anthraquinone vat color is recommended for application in light to heavy shades and especially in formulating chartreuse, green, and brown shades on cotton fabrics.

Since its lightfastness is maintained when the color is combined with other fast-to-light vat dyes, the new yellow should find use in printing drapery, upholstery, and dress-goods fabrics. It is also suitable for printing rayon and for the printing of fabrics that are to be resin treated. It is easily combined with gums and starches to form a printing paste of good viscosity that flows freely in the machine.

Circle D-1 on Reader-Service Card

New Wetting Agent Will Not Rewet

A new wetting agent, dye-leveler, and dye-bath lubricant without any rewetting powers, made by Dexter Chemical Corp., New York, N. Y., is said to be the result of several years of research. In the past, appliers of water repellents have been seriously handicapped by the rewetting powers of the average dye assistant, even when carried over in minute traces from the dye bath. With Atolene NR, the maker claims, this danger has been removed.

Besides being an excellent wetting agent and dye-leveler, Atolene NR has the effect of adhering to the surface of the fibers during dyeing and thus gives them a protective and lubricating film that acts to prevent formation of bruise marks on heavy rayon and acetate fabrics.

Circle D-2 on Reader-Service Card

Renewable Water Repellent Good for All Fibers

A new, renewable water repellent, Arccopel W-18, made by American Resinous Chemicals Corp., Peabody, Mass., is said to be applicable to all types of fabrics. The new product produces a high degree of water repellency. High emulsion stability, low dynamic absorption even after wet, mechanical action, and elimination of foaming are added advantages.

The product imparts water repellency to cotton, wool, rayon, and other synthetic fabrics. Rainwear, suits, sportswear, and other finished garments can also be treated. The product can be applied by standard techniques and possesses excellent storage stability.

Circle D-3 on Reader-Service Card

New Mothproofing Compound for Stored Goods

A new product of interest to woolen manufacturers who wish to protect fabrics or finished garments against moths during storage has been developed by the U. S. Dept. of Agriculture. Known as EQ 53, it is expected also to prove effective for household mothproofing of woolens. Rohm & Haas Co., Philadelphia, Pa., will make the new material. EQ-53 is an emulsion concentrate containing DDT, Triton X-100, and a hydrocarbon solvent. The treatment is not claimed to be durable to washing and dry cleaning.

Circle D-4 on Reader-Service Card

New Softener Resists Heat and Light

A new product of E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del., Avitex NA, is a cationic softening agent developed for use on synthetic fibers and fabrics to improve hand and pliability and to reduce static electricity. The finish is characterized by high resistance to discoloration caused by heat and light encountered in textile-mill application, fabric storage, and consumer use. This property is advantageous in preventing the discoloration of whites and pastel shades, the makers claim.

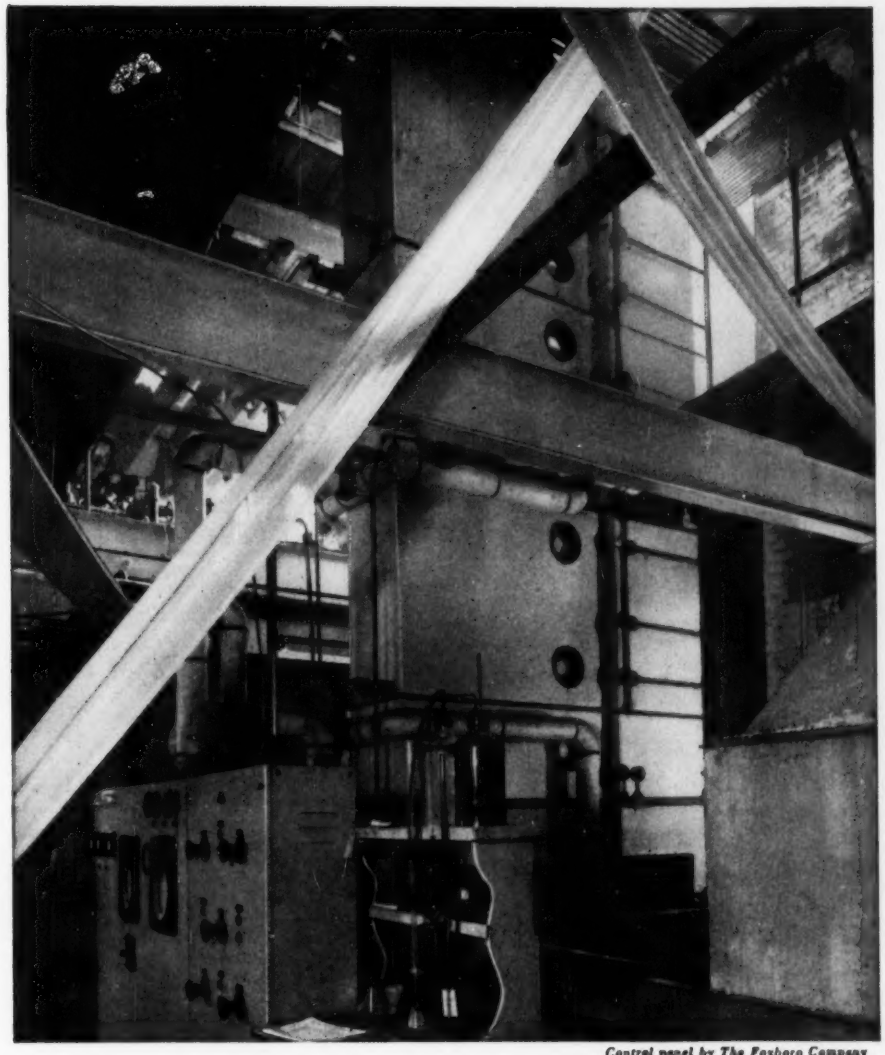
The softener has good substantivity for the water-insensitive textile fibers as well as for rayon, cotton, and mixed-fiber constructions. It can be applied by an exhaustion process and is also suitable for application by a padding or impregnation technique, either alone or in combination with weighting agents, thermosetting resins, and the like.

Goods treated with Avitex NA can be stored safely for prolonged periods without fear of discoloration or development of objectionable odors. The softening and antistatic properties imparted by the product to textile fibers are not impaired by prolonged storage.

Circle D-5 on Reader-Service Card

BECCO

HYDROGEN
PEROXIDE
AND OTHER
PEROXYGEN
CHEMICALS



Control panel by The Foxboro Company in plant of Paramount Printing and Finishing Company, Pawtucket, R. I.

Continuous J-Box Bleaching with Hydrogen Peroxide

Continuous WET J-Box bleaching is now attracting industry-wide attention as the greatest development since the original Becco J-Box.

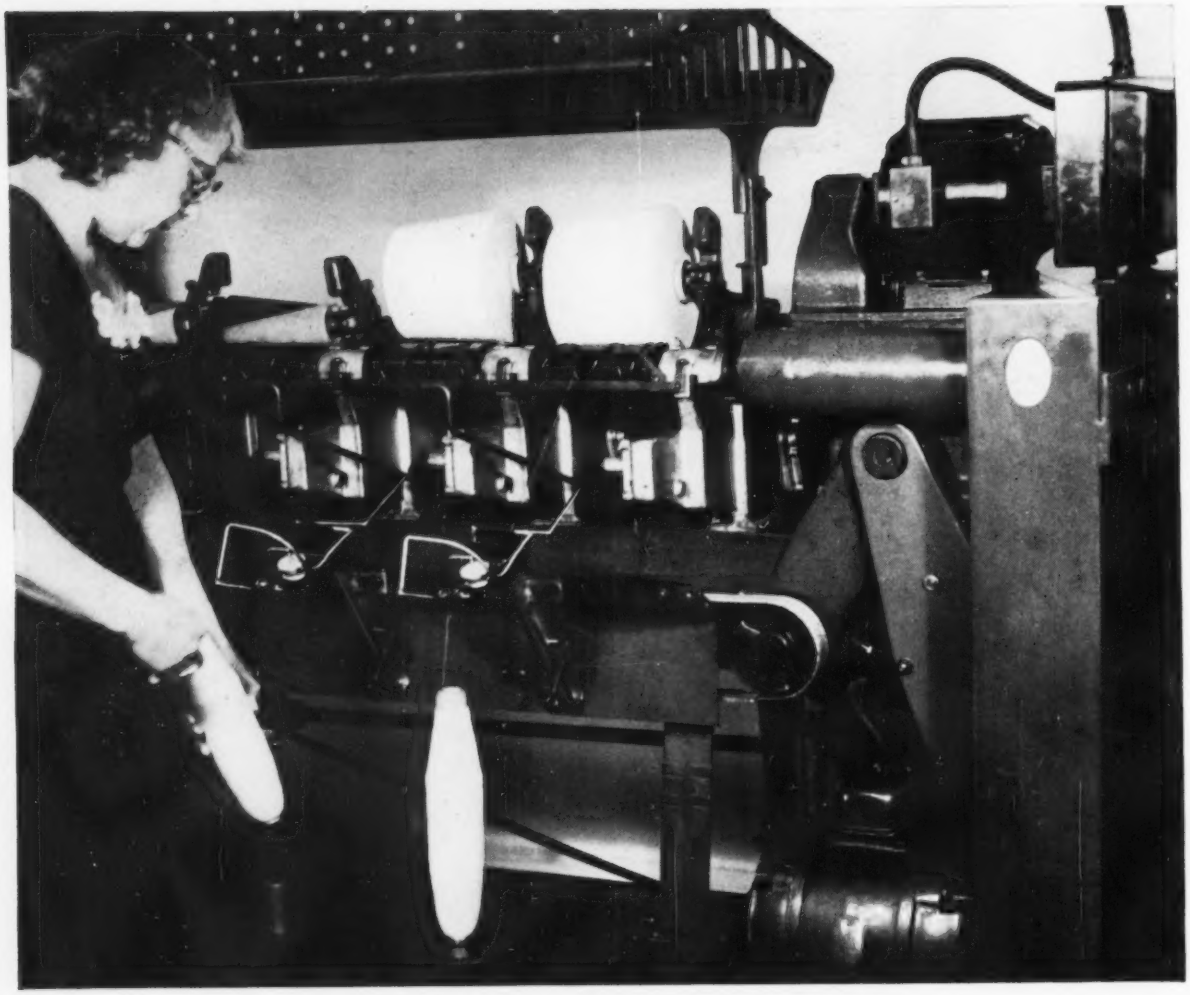
The wet box supports and "lubricates" the goods, reduces friction in the curve of the J, expedites flow, reduces pulling strain, eliminates snarling and tangling. Speeds run as high as 400 yards per minute. As in conventional J-Box processing, it is quite possible to receive gray goods in the morning and ship finished goods the same day.

The WET J-Box process gives a preliminary wash which reduces surface deposits and improves dyeing quality. Write for complete information or talk with any Becco representative.

Buffalo Electro-Chemical Company, Inc.

DIVISION OF FOOD MACHINERY AND CHEMICAL CORPORATION

Sales Agent: BECCO SALES CORPORATION, Station B, Buffalo 7, N.Y. Buffalo • Boston • Charlotte • Chicago • New York • Philadelphia • Vancouver, Wash.



LARGE SPINNING PACKAGES reduce winding cost

Lower winding cost

makes Roto-Coner® Winder the ideal machine for mills using large spinning packages

Any mill using large spinning packages will find it makes great savings by winding on Roto-Coners.

The lower handling time per pound resulting from the longer yarn supply . . . plus the low initial cost per spindle . . . plus the low maintenance cost . . . makes this manually-operated winder your best buy.

So the advent of the large spinning frame package proves again the versatility of the Roto-Coner . . . capable of winding any type of open-wound package with the ideal combination of quality and economy.

Clean, quiet, easy to operate, the Universal Roto-Coner Winder assures high production at low cost in drum-winding cotton, spun nylon, spun rayon, wool, worsted or blends.

For complete information, write us direct.

UNIVERSAL WINDING COMPANY

P. O. BOX 1605, PROVIDENCE 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

LETTERS FROM OUR READERS

Address all communications to:
Editor, *Round Table*, TEXTILE WORLD
330 West 42nd Street, New York 36, N. Y.

Round Table

FIBER RATINGS REVISED IN 1952

A member of our staff has noticed that your latest fiber chart does not include the revised values for descriptive categories of fiber properties. The new ratings were published in the July, 1952, revision of our "Cotton Testing Service." The original ratings were based on data accumulated over a period of years for cottons grown at experiment stations.

After similar data for commercially grown cottons were accumulated, the old ratings did not apply to some characteristics of the commercial cottons. The ratings were then revised to bring them in line with the commercially grown cottons.

We call this situation to your attention so that you can assist us in clarifying some of the questions that have arisen because many people are not aware of these revisions.

JOHN W. WRIGHT

Research and Testing Div.
Cotton Branch, U. S. Dept. of Agriculture
Washington, D. C.

TEXTILE WORLD's Cotton-Fiber Table carried the data through 1951, and it carried the tables that were in effect through 1951. To clear up any confusion that has resulted, the revised ratings are given below:

UNIFORMITY RATIO

Above 80	Uniform
75 to 80	Average
74 or less	Irregular

FIBER STRENGTH
(1,000 lbs. per sq. in.)

Above 95	Very strong
86 to 95	Strong
76 to 85	Average
66 to 75	Weak
65 or less	Very weak

FIBER FINENESS
(Micrograms per inch)

Below 3.0	Very fine
3.0 to 3.9	Fine
4.0 to 4.9	Average
5.0 to 5.9	Coarse
6.0 or more	Very coarse

FIBER MATURITY
(percent)

Above 85	Mature
76 to 85	Average
66 to 75	Immature
65 or less	Very immature

NUMBER OF NEPS
(per 100 sq. ins. of card web)

15 or less	Low
16 to 30	Average
31 to 45	High
46 or more	Very high

UNLIMITED OPPORTUNITY FOR THE SOUTH—IF

(*The following is an excerpt from a talk by Hiram S. Hall, associate member, Wallace Clark & Co., New York, N. Y., before the Industrial Management Club of Providence, R. I.*—EDITOR)

The new economic growth of the South is spawning many serious and far-reaching problems. Can the South solve these problems? There's no doubt in my mind that it can, but there is an "if."

In the transition to an industrialized and urbanized economy, the advantages that Southern industry has enjoyed in the past—an abundant labor supply, low wage cost, low tax rates, nearness to raw materials—will disappear.

In the near future, the South will be confronted by the same problems that have hit older industralized centers in the past. However, there is one very real exception

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"Just WHAT do you mean by that crack—'You're getting too wide at the beam'!"

in that the Southern firms have a time advantage.

The South will be able to solve its problems if it plans now to anticipate the problems before they take shape. Companies not alert to the problem will find it tough going when the competitive squeeze begins.

It is not widely recognized, but much of the advantage Southern industry has maintained in the past has risen from higher productivity. The fiction of the low-wage South has obscured this fact.

The ability to build modern plants with engineered production flow lines and to take advantage of the best materials-handling equipment available, the newest machinery and equipment designs, electronic controls, and mechanical feeding devices has permitted efficiencies not possible in the older industrial centers.

Workers, not inhibited by the lower production standards of the North, were trained to handle the workloads for which this modern machinery was developed. These workers had nothing to unlearn. They could be trained to do their jobs at the pace and tempo required, without sacrificing quality or without increased fatigue. Mechanical hands lightened the load on the human ones. The opportunity to develop this combination of plant layout, modern machinery, and trained workers is the real advantage that the South has had in the past, and the result has been higher productivity and lower per-unit costs.

Alert, aggressive market research and product promotion have sustained these production advantages and have created a sizable reservoir of technical and managerial talent, which is really the answer to the problems of the future.

Management skills of a high order, especially in the field of dealing with the problems of people, will be needed to keep the competitive advantages that the South now has in such abundance from being dissipated and to resolve the many problems arising from the transition to an industrialized and urbanized economy. The South still has a time advantage—two, three, four years—in which to survey the problem, think through its management philosophies and policies, and to acquire and develop its skills.

Firms that plan ahead will direct their efforts to maintaining the intelligent use of a work force that has not been preconditioned to resist technological innovations and increased productivity.

FIGURE YOUR DOFFER COST PER 100 LBS.

The February issue of Textile World carried a story on using a constant to figure doffer cost per frame hand, and this one constant was a composite of a rate constant and cost constant. However, the need for this calculation hardly justifies the trouble of figuring out the constant, since the formula for finding the cost per frame hank can be reduced to the terms of the variables involved. The simplest way is to use the formula:

$$\text{Doffer cost per hank} = \frac{\text{pay rate} \times \text{spindles per frame}}{\text{yarn number} \times \text{bobbins per hour doffed} \times \text{pounds per bobbin}}$$

In fact, the cost per frame hank means little to the cost-conscious mill man. The cost per frame hand decreases as the yarn number increases, but the actual doffing cost per pound remains more or less the same for any yarn number if the ring diameter and lift are the same. The workload is kept close to the standard bobbins per hour doffed regardless of the yarn number. The doffer cost is more meaningful if it is figured as the cost per 100 lbs. of yarn.

A small table shows the difference at a glance:

Yarn number	10s	16s	24s
Lbs. per bobbin	0.25	0.25	0.25
Number of frames	126	126	126
Doffers	36	22	14
Standard workload	532	518	495
Doffer's rate in pies (Indian monetary unit)	60	60	60
Doffer cost per frame hank	18.045	11.706	8.122
Doffer cost per 100 lbs.	45.02	46.96	48.70

Empress Mills Nagpur, India
Ass't. Carding & Spinning Master

L. D. Vora

Four Safeguards for the Polio Season

1. Go to bed if you don't feel well.
2. Keep clean, wash hands before meals.
3. Stay at home and keep away from crowds.
4. Don't get chilled, don't bathe long in cold water or sit in wet clothes.

Questions AND Answers

Experiment To Get Right Twist for Plied Yarns

Technical Editor:

What is the relation of single-yarn skein strength to the strength of plied yarn? Also, please throw some light on turns per inch in doubling. (9660)

Plying gives about 10% more strength than the strength of the single yarn multiplied by the number of ends twisted together. A smoother and more-uniform yarn also is obtained.

A twist multiplier commonly used on ply yarn is around 4.00. If you multiply the square root of the equivalent count of the twisted yarn by the 4.00 T.M., you get the turns per inch. The twist is governed by the use to which the twisted yarn is put. Sewing thread, for example, requires more turns per inch than knitting yarn.

Correct balance of twist between the singles and the plied yarn to prevent kinking must also be considered, but there seems to be no fixed rule.

The range of turns per inch for different kinds of product is very wide. One twist table gives twist multipliers of 1½ to 8 for twisted yarns from 1s to 120s singles. You have to experiment with the turns per inch until you get the right twist and kink-free balance. There seem to be no fixed rules.

Clean Your Looms When the Warps Are Out

Technical Editor:

What is the best method to clean looms? (9652)

The most commonly used method is to clean the loom when no warp is in the loom.

Use a nonflammable cleaning solvent (several new cleansers that can be mixed with water are on the market), a steel brush, hair brushes, and rags. Clean the loom thoroughly by hand, and wipe the loom dry with rags.

Do not get the race plate wet; it will warp if you do. Water in the shuttle boxes should be dried out quickly to prevent rusting. Also, avoid

wetting box leathers and harness strapping.

Clean the looms and the floor beneath the looms thoroughly each time warps are out. If warps are tied at the loom with a portable tying-in machine, clean the loom as well as possible.

[Other methods: TW, June, '52, p. 129]

Bookbinder's Finish Is Starch, Dextrine, and Oil

Technical Editor:

We want to finish duck with a bookbinder's finish. When glue is applied to one side of this finished duck, the glue does not seep through. A sample of duck is enclosed. What is a recommended formula? (9646)

The sample of duck has apparently been given a scour and bleach in preparation. The sample appears to be dyed with direct colors and then finished with a starch finish. Absorbency is reasonably good.

The finish seems to consist of a thick-boiling, but it may possibly be a thin-boiling starch, plus a high soluble dextrine and a sulfonated oil.

The following trial formula is recommended:

Per 100 gals.:

20 lbs. thick-boiling starch

50 lbs. white dextrine (medium to high solubility)

1½ gals. sulfonated oil

These ingredients can be adjusted as required to obtain the proper stiffness and absorbency. This type of finish would normally be applied on a pad-can range or a pad-tenter range.

If the finish is applied on a pad-can range, the finisher should take precautions against a pick-off, which is caused by overheating the first stack of cans. With a proper pad, the dye might be incorporated into the starch mix; but the sample gives indication that the dye has been applied prior to finishing. It is common to give a finish of this type a light three-bowl calender after the starching and framing operation.

Many Factors Control the Pebble in Crepe Fabrics

Technical Editor:

How is the pebble formed in crepe fabric, and how is the degree of pebble controlled? (9657)

The pebble in a crepe fabric is formed primarily by the relaxation of high twist in either the warp or filling yarns, or both. Twist generally ranges from 45 to 75 tpi., depending on the denier of the yarn.

The degree of pebble—fine, medium, or coarse—is controlled by such factors as the yarn construction, fabric construction, amount of twist in the yarn, denier of the yarn, and amount of gelatin and oil in the soaking bath. With all other variables remaining constant, the more gelatin applied to the yarn, the finer the pebble.

To a great extent, fine pebble is controlled by the rate of relaxation of the high twist in the yarn. Yarn with a high concentration of gelatin does not relax as fast as yarn with a low concentration because it takes longer to remove the high concentration of gelatin. The gelatin deadens the twist during the throwing and weaving operations, and the rate at which it leaves the yarn in the finishing process is a big factor in pebble development. A fine pebble is formed from yarn with a high concentration of gelatin.

Soaking oil acts in a reverse manner; the higher the concentration of oil, the coarser the pebble in the finished fabric.

In fabric construction, the fewer the number of ends and picks, the coarser the pebble. The greater the space between yarns, the more room the yarn has to relax and the coarser the pebble.

Classers Assure Quality Of Delivered Cotton

Technical Editor:

Cotton-fiber length, strength, and fineness are generally recognized as the three most important fiber characteristics affecting yarn strength. How precise is a skilled cotton classer's evaluation of these properties without the aid of laboratory instruments? (9662)

A cotton classer cannot judge fiber properties as precisely as instruments can measure these properties. Fiber-property measurements taken in the laboratory offer advantages in selecting cotton of specific characteristics, but an experienced classer is the best insurance for maintenance of the quality of delivered cotton.

A skilled classer's definition of classified length will closely approximate the laboratory length obtained at the upper-quartile point of a fiber array and is usually considered precise enough for practical manufacturing purposes. Mean lengths and uniformity ratios cannot be stated directly by the classer, but he can detect abnormal amounts of short fiber in a specimen. If necessary, the percentages of various lengths of fibers can be obtained from some type of fiber array.

To determine fiber strength expressed in pounds per square inch, a precision bundle-testing machine is required. A good classer can roughly estimate fiber strength and define cotton specimens as "strong," "normal," or "weak" fiber. This judgment prevents abnormally weak cotton damaged from mildew, gin-cut, or other causes from being used.

Exact values for fiber fineness are usually obtained in the laboratory with the Micronaire. However, the experienced classer can designate samples of fiber as "fine," "normal," or "coarse" and allot the fine bales for use in finer yarn numbers, where the number of fibers in the cross section of yarn is important for yarn strength.

Machinery for Chamois Is Engineered for the Job

Technical Editor:

We are looking for any information about the raw materials, machinery, and treatment used for the construction of the cloth known in Italy as "American chamois cloth." (9650)

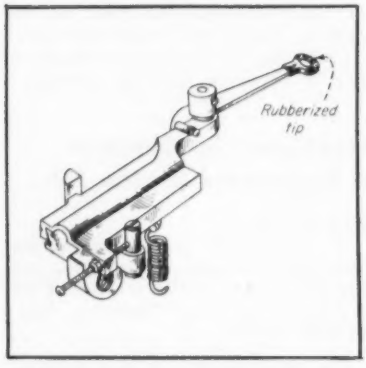
The suede finish is a flock material made from stock-dyed cotton fiber. The staple is random cut, although many of the flock materials are precision cut. Other fibers than cotton are used for flocking: viscose, acetate, and some of the newer synthetics, which are either random cut or precision cut for the required face finish. The back of the fabric is a plain-weave cotton cheesecloth that has been lightly napped.

The equipment used in producing this material is quite costly and is usually designed and engineered by the concern interested in making this type of fabric. A spreader head applies an adhesive to the roll of fabric. After the adhesive has been evenly applied to the full width of the cheesecloth, the flock is sifted, blown, or mechanically dropped on the adhesive-coated cloth. It then passes over a series of beater bars that anchor the fiber in the adhesive and knock the excess flock off the fabric edges into a hopper system below the machine, where it is collected and put back into the flock hopper for reuse.

Backing fabrics of various weights and weaves are used, depending, of course, on the end use of the finished fabrics, which is used in the clothing, shoe, handbag, and belting fields.

Kinks AND SHORT-CUTS

We Change Feeler Tips To Stop Cut Filament



THE PLASTIC IS CUT OFF THE FEELER, and the end of the feeler is sharpened. A new tip, made from an old piece of rubberized lug, is glued and driven on the feeler.

Plastic feeler tips often used to damage our filament filling yarns, especially decoration fillings at the bobbin bunch.

We found that we could replace the plastic feeler tips with fiber tips or tips made from old lugs and stop cut filament.

When we find a feeler that is cutting the filling, we remove the feeler from the loom and cut off the tip. The end of the feeler is sharpened to a point.

A new tip is cut from an old rubberized lug. The new tip is a little thicker than the plastic tip and is patterned from the plastic tip.

Glue is placed on the sharpened end of the feeler, and the new tip is carefully driven on the feeler.

A lug of light color is better than a darker color because it will not soil the filling.

Since the feeler tip made from a lug has a friction-like action, we have few bobbins of filling running empty any more. *Bernard Dixon, Danville, Va.*

How a Double Wrench Sets the Box Cam on C&K S-Looms

It is always hard to time the lever cam on C&K S-looms because it is almost impossible to use common wrenches on the setscrews and setscrew check nuts in the lever cam plate.

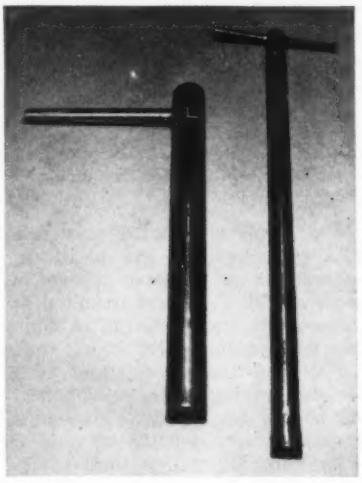
As a result, the lifter levers are often out of time. The cam roll is often moved to time the transfer, but this method disturbs other transfer settings.

We have made two wrenches that, used together, make it easy to time the lever cam. One wrench loosens the check nuts; and the other wrench, inside the first wrench, moves the setscrews.

The wrench to loosen the check nut is made from a section of $\frac{3}{4}$-in. steel pipe $10\frac{1}{4}$ ins. long. A $\frac{3}{8}$-in. steel rod $4\frac{1}{2}$ ins. long is welded to the side of the pipe at right angles 1 in. from one end. An $\frac{11}{16}$-in. socket is welded to the other end of the pipe.

The second wrench, which works inside the other one, is made from a $14\frac{1}{4}$-in. section of $\frac{1}{2}$-in. rod. A $\frac{1}{4}$-in. hole is drilled through the rod $\frac{1}{2}$ in. from one end, and a $4\frac{1}{2}$-in. length of $\frac{1}{4}$-in. rod is centered in the hole and welded in place.

A $\frac{3}{8}$-in. socket to fit the square-head setscrew is welded to the other end of the long rod.



LONG, THIN WRENCH at the right is slipped through the short fat one at the left. The check nut is loosened with the outside wrench, and the setscrews in the lever cam plate are moved with the inside wrench.

The tool was cheaply and quickly made in our mill machine shop. Both wrenches are available to all our loom-fixers, and now all our box cams are in time. *G. Lester Brown, Greensboro, N. C.*

Strip of Felt Pads Shuttle Fur

The furring of high-speed loom shuttles should be done with a thorough understanding of what results will be had by furring for various yarns. High-twist yarns require heavy furring; light, delicate yarns need lighter fur; and novelty yarns may require narrow strips or brushes.

On all furring jobs, the strips should be cut to desired width and length and trimmed in such a manner that the yarn whips into the tension. In addition, the fur is trimmed down or hollowed out according to the yarn.

On some furs and some yarns, further attention is required to prevent yarn breakage. Some furs are rather thin but may be the only fur available at the time of furring. Other furs may be rather heavy and still lack sufficient body to prevent filling breaks. Unless the exact fur needed is available, the fixer must do a little improvising on his own.

To build up the fur body, glue a strip of race-plate felt to the shuttle wall and then glue the fur over the felt strip. This build-up will often prevent sloughing off or formation of twist kinks.

A narrow strip should be satisfactory. The full-width fur strip glued in place will prevent loosening if the glue fails to hold the felt tightly in place.

Use a Hook To Thread Hand-Change Shuttles

We run paper fabrics on our looms and use ribbon-type twisted filling. Wool is placed in the shuttles near the eyes to add friction to the filling.

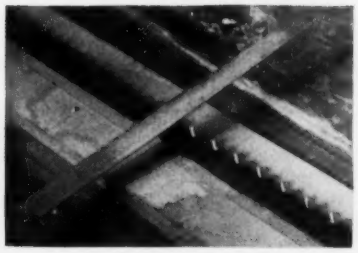
Each time the filling breaks or runs out, the weaver has to rethread the eye, a difficult operation because the wool prevents easy threading. The wool, too, is often damaged when the shuttle is rethreaded.

We now use a special hook to thread the filling through the wool. The hook is made of flat steel ⅜ in. wide, 1/16 in. thick, and 9¼ ins. long. An eye is cut in one end similar to the eye in a reed hook. The other end has a 3-in. round wooden handle.

Now weavers thread the shuttles in half the time formerly required and do not damage the wool. *Julian Hodge, Waynesboro, Va.*

INSERT THE HOOK under the wool, and pull the filling through to save time and prevent wool damage.

Blacken Saw Blade To Speed Filing



A CANDLE FLAME can be run along saw teeth to deposit a black layer before filing. Then you can tell which teeth have been filed and if the filing has deformed the tooth. We file alternate teeth on one side and then turn the saw over and do the other side. *Clifford T. Bower, London, England.*

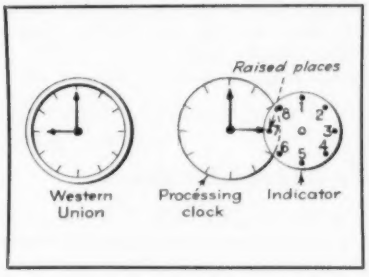
Disk Used With Clock Records 12-Hr. Cycles

Accurate timing of long-time phases of processing can be done by the synchronous clocks and elapsed-time indicator shown in the accompanying sketch.

The processing clock can be located at any point in the mill where it is needed. The clock labeled "Western Union" is the master timepiece against which the local clock is checked for variation in accuracy.

The indicator is a thin metal disk made in the mill shop. The one shown here has eight contact points and can be used for indicating eight revolutions of the clock hour hand. (The minute hand of the clock is offset so that it clears the desk.) Thus, 96 hrs., or four days, can be indicated.

At each number on the disk, a raised place is made. When the disk is mounted with a small arc lapping over the edge of the clock face, one raised place is in position to be struck by the hour hand. As the hour hand moves around the clock face, it pushes the raised place of the disk along, turning the disk and bringing the next raised place into position. In twelve hours, at the next revolution of the hour hand, the disk will be moved one notch again. *(K-1271) Paul C. Ziemke, Oak Ridge, Tenn.*



TIMING PROCESSES that last for hours or days can be done accurately with this indicator used with a clock. The minute hand of the clock is offset so that it clears the indicator disk. The hour hand strikes a raised place on the disk and turns it one number at each 12-hr. revolution.

Add Extra Heddles To Protect Selvage Ends

Occasionally we have a weave where the heddles and warp ends completely fill up the harness frames. On these weaves, the outside selvage ends wear out against the harness frames that are constantly rubbing them.

Now we add three or four loose heddles on the end of each harness. The selvage ends that were formerly broken rub against the extra heddles and are protected.

When the drawing-in hand sees that a harness is crowded, she adds the extra heddles.

This practice has improved the quality of our cloth and increased weaveroom production. *Bernard Dixon, Danville, Va.*

Use a Chart To Find Mistake Patterns

Use a chart to get a pattern for the mistakes employees make in your department. Mark off a chart with the common mistakes across the top and the names of the workers up the side. Use the chart long enough to have enough mistakes to be useful.

You check down a column to see if everybody is making the same mistakes. You check across a row to see if a worker is making the same mistake over and over, or if he is making a lot of different mistakes. *George M. Dodson, Harrisburg, Pa.*

We Use Tweezers To Remove Broken Springs

The spring for the ball check in the box motion on our S-looms sometimes breaks, and the broken pieces are hard to remove. We used to pry the broken springs out with a screwdriver; and in extreme cases we've had to remove the entire box-motion stand.

Now we use a small pair of tweezers to get a grip on the small pieces of springs.

An old shuttle spindle from hand-threaded or shuttle-changing looms can be ground down to make an excellent pair of tweezers.

Chalk Your Bobbins Right on the Winder

We identify our different yarn numbers with colored chalk, and we mark the bobbins automatically on the winder.

A chalk holder fits over the conveyor belt that carries the full bobbins to the truck. The holder is made from a binder spring taken from the box end of our W-3 looms. The spring is bolted to the top of the guide bar on the side of the conveyor belt and moves up and down with the chalk.

The chalk fits in a hole in the spring, and when a bobbin passes under the chalk the entire length is marked. *A. K. Fawcett, Huntingdon, P. Q.*

► Doffers should not run with doff boxes. Haste breeds accidents.

The Avondale Sun

We Use a Dolly To Doff Cloth

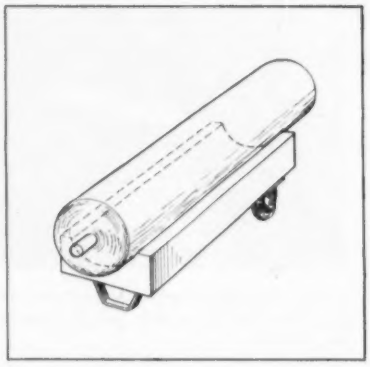
Our cloth doffers used to lift the rolls of doffed cloth from the floor, place them on their shoulders, and take them to the cloth truck on the spare floor.

This practice was hard work because the rolls of cloth are heavy and a cloth doffer takes off over 100 rolls in an 8-hr. shift. And, in addition, the cloth was often soiled with black oil from the floor or the lengthwise bottom girder.

Now we use a small dolly to move the doffed cloth to the spare floor. The dolly has two truck casters for wheels and has a strap-iron brace under the end opposite the casters to hold the top level.

Cloth is taken from the loom and placed on the truck. Then the new roller is put in the loom and the end of the new roll of cloth put around it.

After the new roll of cloth is started, the dolly is rolled to the spare floor to deliver the full roll of cloth.



ROLL THE CLOTH from the cloth-roll bearings to the dolly and then push the dolly and cloth to the spare floor.

The doffing crank (this is a Kink, too) can be kept on a hook welded to the side of the truck. *Charles Westbrooks, Trion, Ga.*

Inspect Harness Connectors To Reduce Breakouts

We formerly had a lot of small breakouts caused by broken top-harness wires, jack eyes, and harness cords.

Now, before a warp is tied on, the warp man inspects all these parts for wear. Parts worn excessively are replaced with new ones. Since inspection and replacement of the parts requires only a little of the warp man's time, there's little extra labor cost. Parts cost, too, isn't increased because the worn parts would soon break anyway.

Our breakouts have been substantially reduced since we've followed this new practice; and, consequently, our weave-room production and seconds are improved. *Bernard Dixon, Danville, Va.*

How To Identify Loom-Finished Acetate Fabrics

Sizing of acetate warps with a permanent, water-insoluble size is becoming quite a common practice. Such fabrics do not require any wet finishing and, because of the sizing, are resistant to water spotting. Here's how to identify such fabrics.

If the warp appears to be sized and the filling is much softer, the fabric has passed the first test.

If the warp is white or a light color, spot the fabric with a drop of 20% ammonia water (20 parts of concentrated ammonia to 80 parts of water). Let the fabric stand for five minutes, then spot it again in the same place with a dilute iodine solution (10 parts of potassium iodide, 90 parts of water, and enough tincture of iodine to color the reagent light yellow). The spot will turn pink or red if the fabric is loom finished. The starch or dextrine often used in ordinary finishes may give a blue or violet color if present but should not interfere.

If the warp is dark, heat the fabric to 130° F. with the ammonia in it. Add the iodine reagent to the ammonia-water extract after cooling, and the characteristic pink color will be seen if the fabric is loom finished.

Dyes will not bleed in this test because the spun-dyed yarns usually used are very fast. All of the loom finishes give the same pink color. If similar sizes were applied in wet finishing, the filling would be stiffened as well as the warp, but the pink color would be the same.

$500 for Best Kink in 1953
$25 for Best Kink Each Month
In Addition to Space Payment on Acceptance

You undoubtedly know many Kinks and Short-Cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your Kink may win the $500 check for the best Kink of the year or the $25 check for the best Kink of the month; maybe both!

Send in your Kink now. There is always a contest going on. The more good Kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every Kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the Kinks in this and other issues. You will get ideas you can use as well as inspiration for Kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published Kink will be judged impartially by other mill men. In cases of ties, duplicate prizes will be awarded.

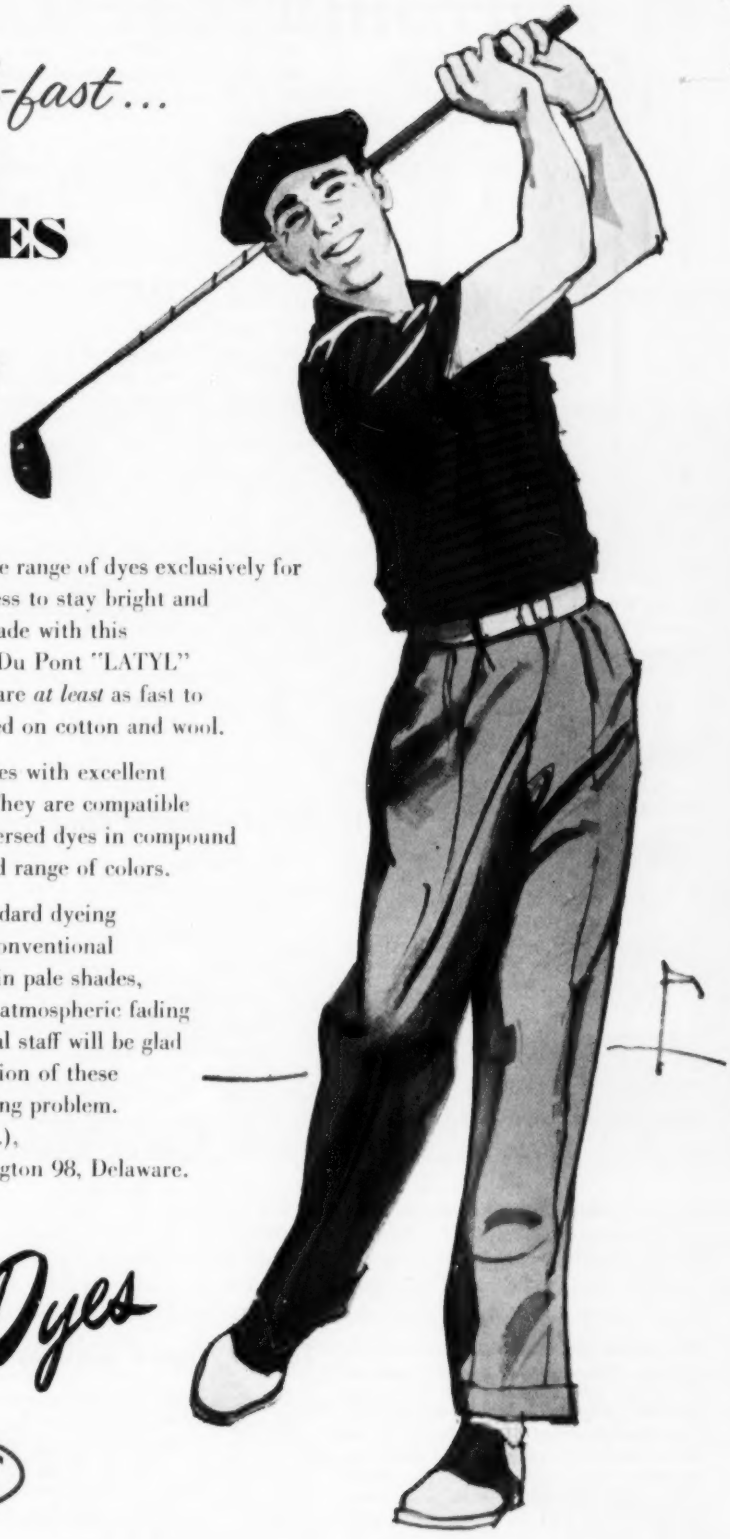
RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month. $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1953.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final.

Send Kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

Sun-fast, wash-fast...

DU PONT "LATYL"* DYES *for* DACRON†



Now . . . Du Pont has developed a wide range of dyes exclusively for "Dacron." They have the color fastness to stay bright and fresh throughout the life of fabrics made with this durable new fiber. In fact, these new Du Pont "LATYL" colors properly applied on "Dacron" are *at least* as fast to light and washing as the best dyes used on cotton and wool.

"LATYL" dyes produce brilliant shades with excellent fastness to washing . . . to sunlight. They are compatible with one another and with other dispersed dyes in compound shades . . . make possible an unlimited range of colors.

"LATYL" dyes can be applied by standard dyeing techniques similar to those used for conventional dispersed colors. Some of these dyes, in pale shades, have exceptional fastness to light and atmospheric fading on cellulose acetate also. Our technical staff will be glad to help you in the choice and application of these new colors . . . or on any other coloring problem.
E. I. du Pont de Nemours & Co. (Inc.),
Dyes and Chemicals Division, Wilmington 98, Delaware.

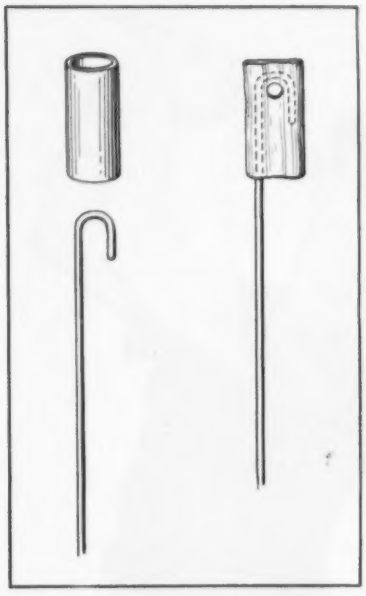
*REG. U. S. PAT. OFF.
†TRADE-MARK FOR DU PONT'S POLYESTER FIBER

Du Pont Dyes

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Screw Connection for Wire Made From Copper Tubing



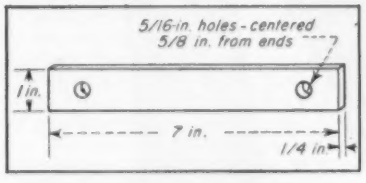
U ON WIRE END fits inside copper tubing, which is then flattened and drilled to make a screw connection.

If you want to make a good screw-type connection on an electric wire, try this idea.

Take a short piece of copper tubing, and insert the end of the wire after you've bent the end in a U. Flatten the tube, and drill a hole in the middle of the tube so that the hole will come between the sides ot the U in the wire.

Then put a screw in the drilled hole and you'll have a firm connection. *W. E. Warner, Essex, England*

Winder Extension Is for Large-Package Bobbins



FOR WINDING LARGE BOBBINS from new spinning frames, make a steel extension 7x1x¼ ins. Bore a 5/16-in. hole ⅝ in. from each end. Remove the regular bobbin-holder attachment from the winder, bolt it in one of the holes in the extension, and attach the extension where you removed the bobbin holder. This method works on most makes of winders that have the bobbin holder back in the winder and not directly under the thread guide. *P. A. Whetstone, Durham, N. C.*

How To Check Angles Without a Protractor

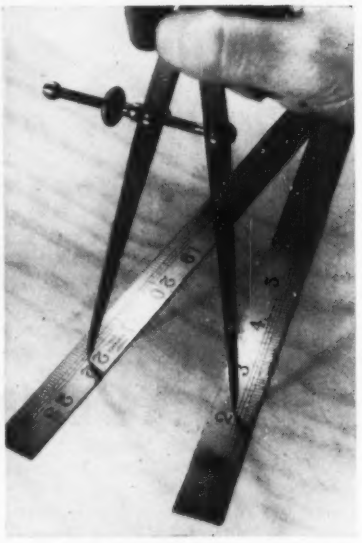
It's often difficult to use a protractor with accuracy, and sometimes you don't have one handy. Here's how you can measure angles with a standard folding rule. Our method is based on a 2-ft. rule, but you can apply the principle to a smaller rule.

You'll need a machinist's handbook or a table that gives the lengths of chords for various angles between two radii of a circle.

On the 2-ft. rule, make a center-punch depression 10 in. out from the hinge, along each side. Be sure to make the marks exactly in the center of the rule width. The two punch marks are points on the perimeter of a circle of 10-in. radius, so a straight line joining the points is a chord of the circle.

To set the rule halves to have any desired angle between their edges, look up the angle in the table of chords and find the constant for that angle. Multiply this constant by 10 (since the table is for a circle of 1-in. radius), and set that distance on a pair of dividers or calipers. Then open the rule halves to the calipered distance, and the angle between rule halves will be the one you want.

You can use either the inside edges or the outside edges—the angle is the same. For rough settings, you can measure the distances between punch marks with a ruler. *Clifford T. Bower, London, England*



SET THE DISTANCE between punch marks that are a fixed distance along the rule halves after you've determined the setting from a table of chords. You can set or check angles this way.

Our Packaging Conveyor Saves Eight Manhours a Day

The final product of our mill is yarn, and boxing it used to be quite a task. We installed a conveyor that has saved a man a day and makes the job much easier.

Under the old setup, after the yarn came out of the conditioning room in a wooden box on wheels, we emptied the cones into a cardboard box. Then this carton was trucked to the strapping area. Trucking the carton to stenciling and weighing meant more handling. Finally it was trucked away to be stacked.

Here's how we do it now.

We still have the wooden box for conditioning. But now we wheel this box up to the end of our conveyor, where an empty carton is ready. Cones are packed into the carton, and then the box starts its trip along the conveyor.

First comes strapping, where we put on three straps at a time. A total of six straps are put on.

The carton is rolled along to the scales that are built into the conveyor, weighed, and then stenciled. At the end of the line, the carton, ready for shipping, is trucked to the storage area.

It used to require four men to do this job. Now we get out the same production with three men, and everybody likes the new arrangement better. *W. N. Poe, Talladega, Ala.*

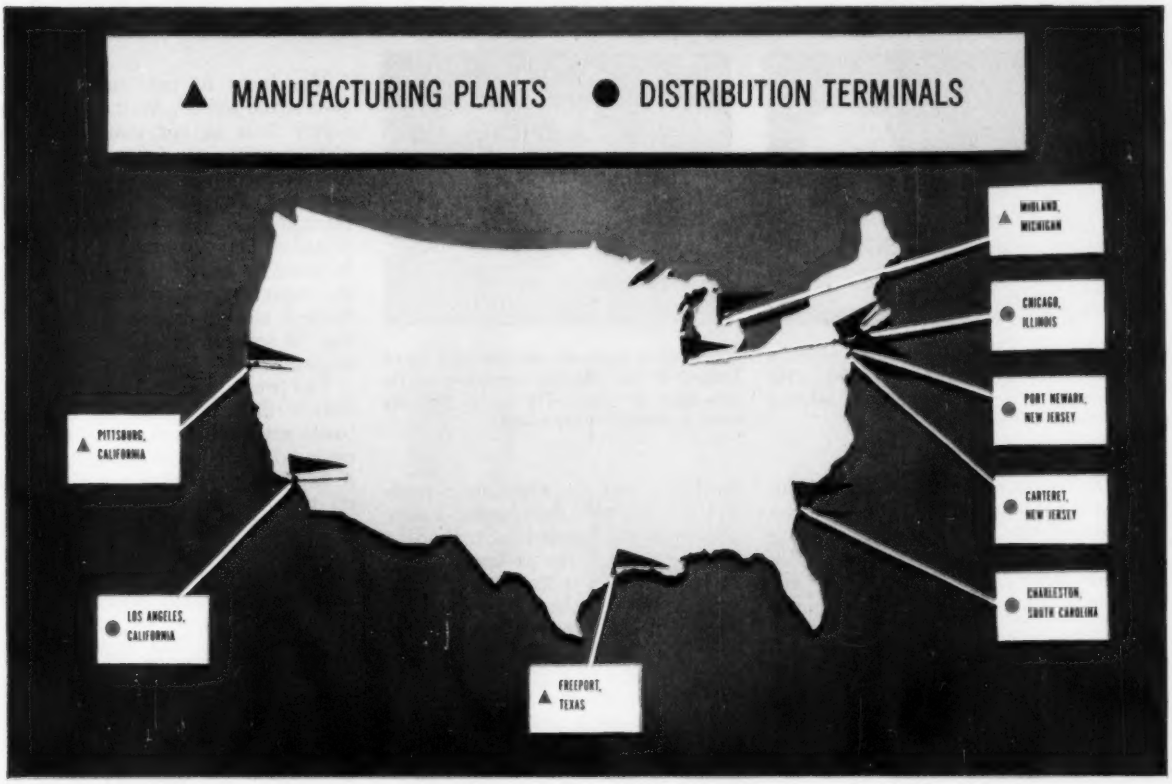
Textile World Articles Filed in Loose-Leaf Form

For some time I have been using a very simple arrangement for keeping articles from TEXTILE WORLD so that I can readily refer to them at any time. To keep a complete file of TEXTILE WORLD is bulky at best, and for me, impractical.

I have found that I can easily and quickly cut out any article I want to keep and glue it to a "notebook tab" and put it in my loose-leaf binder. The only other operation necessary is to take time to trim the top and bottom margins to fit a standard loose-leaf binder. *W. C. Gibson, Jr., Atlanta, Ga.*

DIVERSIFIED DISTRIBUTION IS DOW'S KEY TO DEPENDABLE CAUSTIC SODA DELIVERY

Strategically located manufacturing plants and shipping terminals provide fast, efficient, nation-wide service



As a user of caustic soda, you are particularly concerned with prompt, dependable delivery, for it means that your production schedules can be maintained. In order to serve you in the best possible manner, Dow has created a diversified caustic soda distribution network—*a network that can serve all industries throughout the country from a minimum of two shipping points.*

Your company can greatly benefit by Dow's distribution system. With three manufacturing plants, which also serve as shipping centers, and five additional distribution terminals, Dow can serve your requirements fast and efficiently wherever you are.

Dow's rigid quality control assures you of uniform, high quality caustic soda at all times. Whether you use caustic soda solution, solid, flake or ground flake, you can be certain that the modern containers are designed to maintain the high quality of the caustic soda and are safe and convenient to use.

The next time you order caustic soda, be sure to call on Dow and take advantage of the many distribution and production benefits.

Write Dow today for the Caustic Soda Handbook. You will find it a valuable addition to your files. THE DOW CHEMICAL COMPANY, Midland, Michigan.

you can depend on DOW CHEMICALS DOW

 For more information, write direct or use Reader Service post card.

Best-Kink Award for May

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

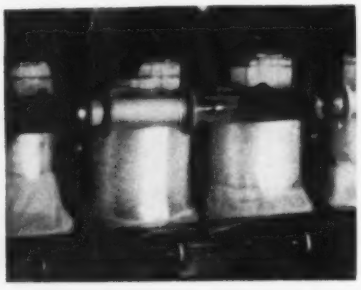
The May contest resulted in a tie. The best Kinks for May, according to TEXTILE WORLD reader-judges, were:

"King-Size Yarn Board Permits Continuous Inspection"
and
"Device Will Count Knots in Your Yarn"

Each of the winners is being sent a check for $25 with the compliments of TEXTILE WORLD.

Special Cake Holders Help Rayon Winding

SPREADING FORCE of the cake holder is smooth even at the end of the cake. The holder frame is covered with paper before it is inserted in a cake.



WINDING is improved with the cake holder because of the smoother unwinding of the yarn from the cake. The top of the cake cover is inserted in the holder.

Rolled fiber sheets are hard to insert in a rayon cake, and the spreading force of the sheets makes rewinding difficult as the cake thins out. We don't have these troubles with our cake holders. Here's how we make them:

A wooden cylinder is capped with disks on each end to make the body of the cake holder. Six brass spring wires are fixed on the top of the disk; the other ends are bent and inserted in holes into the bottom disk. Porcelain eyelets are fitted to the tops of the holes, and the wires move freely in the holes with their spring action. The wires are adjusted for tension by bending them to the proper curve.

A paper cover is stretched over the form, and the cake holder is ready. We insert it in a cake, pull down the lower edge of the cake cover, take off the upper half of the cover, and tuck the cover inside the top of the cake holder. We use a cap made of a wire ring and two bands.

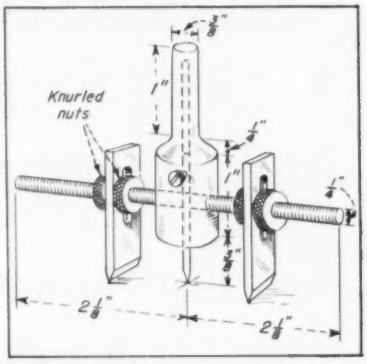
With this holder, we get good rewinding, even at the end of the cake.

How We Keep Our Dyeing Machinery Clean

When we had to strip goods in our monel-metal machinery, we got black sulfide deposits. Here's how we avoid them now: add equal parts of caustic soda to the machine with the sodium hydrosulfite. The metal now remains bright and free from deposits. If soda ash is used instead of caustic, we get a white deposit.

To keep our hosiery-dyeing machines free of resin deposits that tend to accumulate, we fill the machines with soft water and add 4 lbs. of dissolved soap and 3 qts. of toluol. We then raise the temperature to 120° F. and run the machine for ½ hr. We do this at the end of the week and let the solution remain in the machine until Monday morning. A hot rinse should be given on Monday morning before the machine is used again. Repetition of this process for several weeks will clean the machine perfectly. *James Rowatt, Hamilton, Ont.*

Cut Gaskets From Sheet Stock



GASKET-CUTTING TOOL is placed in any chuck and cuts two circles at once.

We have to cut many circular gaskets and washers for the piping and supply lines in our mill. This adjustable cutter was devised to make it easy to cut any size gasket or washer required. The horizontal bar, passing through the body of the cutter, is threaded its entire length. This threaded bar has a hole drilled through its center for the center pin to pass through and to prevent it from turning. A setscrew holds the center pin in position.

The two cutting blades have vertical slots in them to permit the threaded bar to pass through them and to allow up-and-down adjustment of the blades. A knurled, threaded nut is tightened up on each side of the blades to hold them in position to cut the desired size of circle. The center pin may be a standard ¼-in. drill or plain round stock with a ground cutting edge on the lower end.

The shank on the upper part of the cutter body is placed in a chuck, hand or machine driven. One of the cutting blades is set to cut the outside dimension of the gasket, and the other blade is set to cut the correct-size hole. The center pin holds the cutter in position on the gasket stock, and as the cutter is revolved two circles are cut at the same time.

Magnetized Strip Holds Wire Out of the Way

If you've ever had to hold a trouble light and an extension cord at the same time, you'll appreciate this idea.

Tape a piece of uncovered steel wire to your extension cord. The steel can be magnetized and will hold the wire up against any iron or steel pipe or girder to keep it out of your way. *W. E. Warner, Essex, England*

CUT EXPENSE FOR OILING AND MAINTENANCE WITH —

HARTFORD Ball-Bearing SPINDLE

1. Two pre-packed, grease-retaining, ball-bearings in this spindle eliminate the oiler's job. (No oil on yarn or floors). This spindle needs no maintenace of any kind for an estimated five years. You are able to operate at maximum r. p. m., with no friction heat and with less motive power.

2. No shutdown time for plumbing adjustments. This spindle can be plumbed while running. An exclusive plumbing device at the base features double-eccentric aligning sleeves. The smoothness of this spindle assures more even twist. Its continuous operation assures a wider margin of profit.

WHO IS HARTFORD?

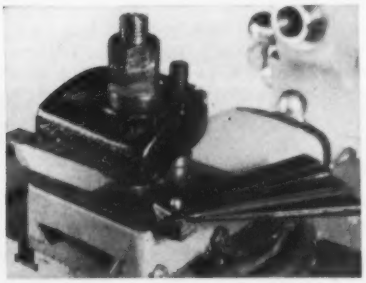
The Hartford Machine Screw Company — acknowledged for over three-quarters of a century as a leading producer of precision machine components — pioneered the manufacture of anti-friction spindles . . . over 3,000,000 time-tested on installations of machine builders. The present line of Hartford spindles incorporates improvements in design suggested by long observation of spindle performance. These new improvements further conserve labor and increase mill profits.

See this improved spindle for yourself. Simply write our nearest office and ask to see a sample. Just address your letter to . . .

HARTFORD MACHINE SCREW CO., INC.

HARTFORD, CONN. SOUTHERN DIV. 110 W. McBEE AVENUE, GREEN

Use Leaves of Steel To Pack Tool Shanks



LIKE A LEAF GAUGE, these strips of steel are arranged in order of thickness and never get lost.

Lathes with square four-station tool posts and clamp-type tool posts require the insertion of packing under the tool shanks to set the cutting edge correctly. Such packings are usually made from several pieces of flat steel of various thicknesses, and a lot of time is spent by the lathe setter in selecting the correct combination to obtain the desired height. Bits of loose packing are awkward to use since they tend to fall apart during handling.

The task of packing can be simplified by using units of several leaves of flat mild steel about 1/32 in. thick. A hole is drilled in one end of the pile of pieces, and a hinge bolt is inserted and held with a nut. The packing pieces may be swiveled on the bolt just as a set of thickness or feeler gauges is used.

Any height of packing may be obtained, in 1/32-in. increments, by inserting the required number of strips under the cutting tool. The surplus strips are swung out of the way but are always on hand if needed.

These packing piles are very useful for setting the cross-slide tools in turret lathes. When used in such circumstances, the unused strips are arranged to come at the bottom of the packing pile instead of at the top as illustrated. Then the strips lie along the front face of the tool posts and do not impede the use of tools. *Clifford T. Bower, London, England*

Fixers Wear Gloves To Reduce Seconds

Analysis of our soiled socks showed that many dirty marks originated when the patterns were changed and sizes altered.

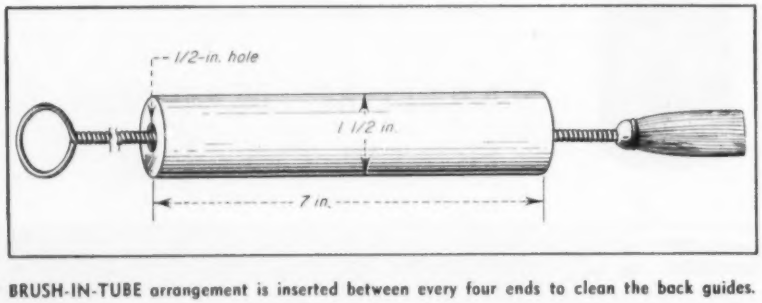
These marks were difficult to scour out, so we gave our fixers rubber gloves, which they wear when they change the greasy chain links and cams. The gloves are taken off to examine the sock after the alteration has been made. *H. J. Haas, Martinsburg, W. Va.*

Back-Guide Wiper Keeps Gouts Out of Yarn

A brush in a tube helps us to wipe our spinning-frame back guides and keep gouts out of the work turned out by our frames.

A 17½-in. brush handle (of about ¼-in. diameter) goes through a tin cylinder, as shown in the sketch. The cylinder is 7 ins. long and of 1½-in. diameter. There is a ½-in. hole through the middle for the brush handle.

To use, place the tube between two ends, push the brush through and wiggle it around on the back guide, pull the brush back, and remove the tube. Back guides can be wiped more quickly, and a better job can be done without fear of breaking ends or making bad work. The new gadget needs to be used only between every four ends, not between each pair of ends. *J. B. Boyter, Dallas, N. C.*

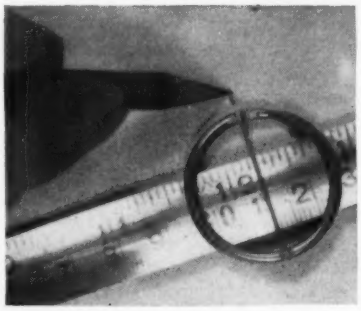


BRUSH-IN-TUBE arrangement is inserted between every four ends to clean the back guides.

Trim Gear Housing To Get at Locking Nut

On No. 75 Foster winders you have to remove the protective housing behind each spindle to get at the gears to adjust and change them. If you cut off a small part of this cover, you can get at the locking nut without removing the cover. The gear change is thus done more quickly, and less production time is lost. *A. Hilinski, Wilkes Barre, Pa.*

Equip Steel Tapes With a Hairline



KEY RING is fitted with a cross hair made of copper wire and then threaded on a steel tape to prevent errors in marking off equal distances.

When you are laying off duplicate lengths with a steel tape or collapsible spring rule, there is always the risk that a mistake will be made and the length laid out incorrectly. For instance, working in the middle of the rule, it is a common mistake to mark the length on the work at the wrong side of one of the inch marks on the tape. Instead of marking 12¼ ins., as shown in the illustration, it is very easy to place the mark on the work at the 11¾-in. position.

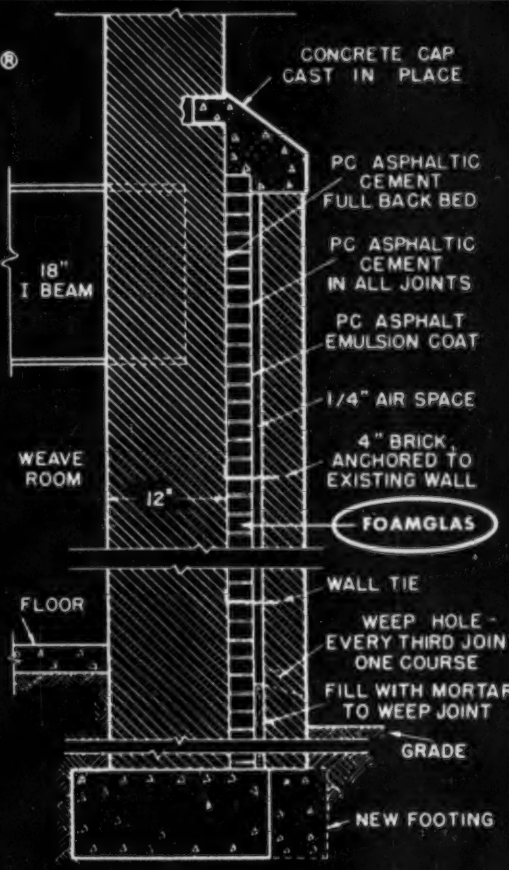
A handy gadget for avoiding such troubles is a marker, which can slide along like the glass on a slide rule.

The marker is made from a common key ring, which can be threaded on the rule and will stay in any desired position but can be slid easily.

The center of the key ring is spanned by a thin piece of copper wire that you can get from electric cable. The wire is straightened and soldered in place at both ends on the key ring. The wire covers the required graduation mark on the rule and prevents a great deal of confusion when you are laying off duplicate distances.

When the tape is rolled up in its container, a short end can be allowed to project, and the marker need not be detached from the tape.

"FOAMGLAS® insulation stopped condensation without shutting down our weave room"



WALL SECTION

Consulting Engineer:
Hill & Hill, Welford, S.C.

M. Lowenstein & Sons' Vice President and Plant Superintendent, T. G. Roche, reports: "At our Limestone Mills, Gaffney, S.C., we benefited two ways from FOAMGLAS insulation. . . . It has eliminated permanently condensation on the weave room walls, enabling us to maintain constantly the required 80° temperature and 85% humidity. Also, we were able to install the rugged, waterproof blocks of FOAMGLAS outside the walls, avoiding a costly stoppage of the looms for weeks."

Let FOAMGLAS provide *you* with constant insulating efficiency coupled with long, trouble-free life. Use the coupon now for full information.

PITTSBURGH CORNING CORPORATION

One Gateway Center • Pittsburgh 22, Pa.

Pittsburgh Corning Corporation, Dept. AH-73
One Gateway Center • Pittsburgh 22, Pa.

Please send me free sample and booklets on use of FOAMGLAS for:

- ☐ Normal Temperature Buildings
- ☐ Piping and Equipment
- ☐ Refrigerated Structures
- ☐ Send engineer to help with specific problem
- ☐ Advise nearest source of supply

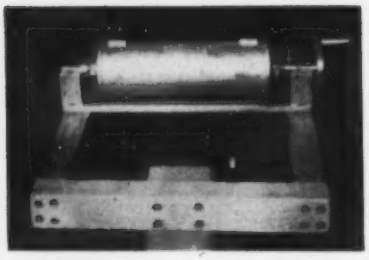
Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

How We Measure Length To Determine Yarn Shrinkage



THREADED DRUM winds a definite length of yarn, at constant tension, to enable accurate length measurement for shrinkage calculations.

The skein method of measuring shrinkage of single yarns is good, but only where a high degree of accuracy is not required. The limit of accuracy for the skein method is probably about ±6%; and when you're measuring shrinkages of 1% or less, that's just not good enough. So we have developed a more accurate method of winding, tensioning, and measuring single yarns to determine shrinkage. The device is for both spun and filament yarns.

Heart of our device is an accurately machined metal spool. The spool is threaded, at 10 threads per inch, so that exactly 40 turns of the 2-in.-dia. shaft will wind 251.4 ins. of yarn under an exact and constant tension.

The metals used are strictly a matter of personal preference. We prefer brass, aluminum alloy, or stainless steel for most of the parts.

Tension is controlled by unwinding the test length from the supply package down a stair well or a vertical shaft with a free height of about 25 ft. The standard weight (1/30 gram per denier for nylon) is then attached to the free end, the other end is attached to the spool, and the length is wound. The proper tension for each type of yarn must be found experimentally. No elongation should occur when the yarn is suspended for 15 min. with the correct weight attached to it.

The sample is then unwound from the spool to undergo any standard shrinking treatment. What was the weighted end of the sample is at the top for this next winding, and the procedure is the same as before: unwind down the 25-ft. open space, attach the weight, and wind at constant tension.

The limit of accuracy of our method is within ±2%. We can therefore measure shrinkages below 1% with accuracy.

We recognize that there are some disadvantages to the method: some twist is lost while the yarn is suspended (negligible, we believe, and not a problem at all in twist-set yarns); a free height of 25 ft. is essential; and more time and care are required than with the skein method.

But we believe that the advantages outweigh the disadvantages: tension is constant; a reasonable length of yarn is tested; and measurement is very accurate.

The device can also be used for tests of various properties of yarn under tension. The spool can be slipped off its shaft, and the entire package can be subjected to the desired treatment. *P. V. Hartman, Bethlehem, Pa.*

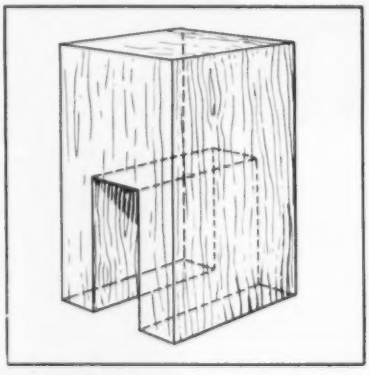
How We Prevent Jams on Our Bobbin Stripper

We were having trouble with bobbins getting jammed by the guide bar on our bobbin stripper. The bar would tip and move to one side in the slot, and a bobbin could then turn on its side and jam.

Two wooden blocks solved our problem by holding the guide bar securely. We put one block at each end.

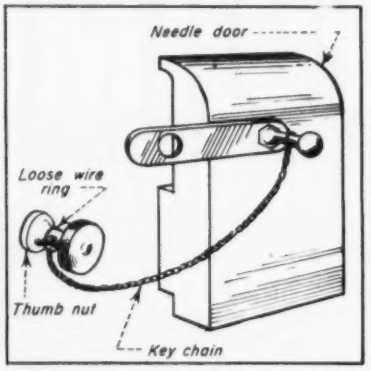
The blocks are made from a piece of ¾-in. wood and are 2 ins. high and ⅛ in. wide. A ¾-in. slot is cut out of the bottom, as shown in the sketch.

The block fits over the guide bar and keeps it in a vertical position. The bar can still move up and down, however; so its functioning is not impaired. *Leslie D. Hayter, Huntingdon, P. Q.*



TWO BLOCKS like this one hold the guide bar on the bobbin stripper in a vertical position—no tipping allowed, and, therefore, no bobbin jams.

These Thumb Nuts Don't Get Lost Any More



CHAIN THE NUT, and you won't lose nuts any more.

We used to lose production through the loss of the thumb nuts that hold the cam-box doors in position on our interlock knitting machines.

We now secure each nut to the door with a 3-in. length of key chain. When the doors are removed there is now no danger of the nuts falling on the floor or dropping into vital parts of the machine.

The chain is attached to the nut by a loose-fitting wire ring that allows the nut to turn easily. The other end is fixed to the handle of the needle door. *W. M. Scott, Middlesex, England*

"Leader" of Glass Fabric Is Good for Carbonizing

A heavy fabric, similar to canvas but made entirely of glass fibers, has proved its merits as a "leader" in woolen carbonizing in our mill.

This fabric, full width and a few yards longer than necessary to fill the rollers through the acid-carbonizing bath, may be left on the rollers and in the acid bath indefinitely without the slightest damage.

The glass-fiber cloth, stitched, clipped, or otherwise conveniently fastened to the leading end of a new run of woolen fabrics, leads the wool goods through the acid-saturating tank. After the run is completed, the leader is fastened to the last end and is drawn through the rollers, where it remains until the next run is ready to go.

The new leader will last for years and represents a great economy over any other fabric for such a corrosive exposure.

High resistance to corrosion

The entire Tru-Shade Dye Beck is stainless steel; the tub of Type 316 stainless steel. No carbon steel is welded to the stainless steel in any part of the construction. Ribs are spot-welded to inhibit corrosion of the metal. The welds are strong: each one is tested individually for 4000 pounds tear strength.

Quality from the Mill . . .

New high-efficiency motor drive

The motor drive shaft, mounted on *stainless steel* supports, is directly in line with the reel; chain whip is eliminated, power transfer more efficient. Stainless steel ribs directly support motor bearings.

Special features

The Rodney Hunt dye beck is designed for easy cleaning . . . even in corners. The patented, girder-construction reel has a rigid shaft to withstand cloth surging. Doors are reinforced with horizontal ribs to prevent distortion. One-piece window frames prevent leakage. One-piece house top gives high strength . . . makes cleaning easy.

Profit from the Machine!

How can the finisher get the *quality* he's aiming for . . . the *profit* he must have . . . and the *assurance* that his equipment will handle a wide range of fabrics over a long span of years? Rodney Hunt designers take these questions as specifications! . . . so Rodney Hunt TRU-SHADE® Dye Kettles are designed to give efficient low-cost operation and maintenance, assure mill flexibility and long life . . . designed to meet *your* demand for quality and *everyone's* need for profit. For detailed literature write to RODNEY HUNT MACHINE CO., 66 Mill Street, Orange, Massachusetts, U.S.A.

RODNEY HUNT®

Manufacturing Engineers Since 1840

TEXTILE MACHINERY DIVISION

PORTAGE HOSIERY COMPANY, WISCONSIN

H. S. Bronson, Supt. at Portage told us:

"YOUR LINE OF GLADE OILS SERVES OUR PLANT COMPLETELY"

OIL STAINS ON FINISHED PRODUCTS are a particular hazard in the hosiery business. Glade Oils, quality lubricants, with high "wash-out" ability, prove perfect answer.

CITIES SERVICE LUBRICATION ENGINEERS offer on-the-job lubrication tests without upsetting tight schedules found throughout the textile industry.

Cities Service Lubrication Engineer Proved How Glade Oils Were Superior in Combating "Staining"!

According to Mr. Bronson, Superintendent at Portage, Cities Service Glade Oils were not the only oils tested by them. As he put it:

"We could not advocate any one brand until we had satisfied ourselves on the merits of several. The 'wash-out' ability of Cities Service Glade Oils clearly demonstrated their advantages.

"We were also very definitely impressed with the industrial survey of our textile machinery made by your local engineer. The survey did not impose any radical changes that might have upset our heavy production schedules . . . and the result was the solution (Cities Service Glade Oils) to a serious 'staining' problem we had!"

Perhaps a Cities Service Engineer has an answer that will mean time and money saved for you too. Contact the office nearest you or write Cities Service Oil Company, Dept. **G27**, Sixty Wall Tower, New York 5, New York.

CITIES SERVICE
QUALITY PETROLEUM PRODUCTS

Free Technical Information

Reader Service

MILL EXECUTIVES may obtain free for the asking . . .

. . . OUTSTANDING TRADE LITERATURE reviewed on the next and following pages

. . . FURTHER INFORMATION on
New Textile Equipment
New Dyes & Chemicals
New Useful Accessories
Editorial Articles
and the Advertisements

WRITE ON THIS CARD →

. . . to get more information on anything published in the editorial or advertising pages of this issue. If your inquiry concerns equipment or supplies, name the specific equipment or supplies involved. If your inquiry concerns anything other than equipment or supplies, you must state specifically the information you want.

. . . to send a Kink, a letter for Round Table, or a news note.

. . . to comment on anything appearing in this issue.

. . . to query the editors about any manuscripts you might wish to submit to them.

. . . to send an inquiry to the Questions & Answers department.

●

Cards require no postage . . . but be sure to give your name, title, mill connection, and address.

●

CIRCLE THE NUMBERS ON THIS CARD →

. . . to request copies of trade literature described on the next and following pages or to get more information on New Textile Equipment, New Dyes & Chemicals, and New Useful Accessories described in this issue.

Dear Editor: **This Card Expires September 30, 1953**

Please send me additional information on the following:

PAGE	SUBJECT	PAGE	SUBJECT
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Please print or write legibly

Name..... Title.....

Mill.....

Street .....

City..... State.....

TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y. JULY, 1953

Please send me the following: **This Card Expires September 30, 1953**

TRADE LITERATURE Number: F-1 F-2 F-3 F-4 F-5 F-6 F-7 F-8 F-9 F-10 F-11 F-12 F-13 F-14 F-15 F-16 F-17 F-18 F-19 F-20 F-21 F-22 F-23 F-24 F-25 F-26 F-27 F-28 F-29 F-30 F-31 F-32 F-33 F-34 F-35 F-36 F-37 F-38 F-39 F-40 F-41 F-42 F-43 F-44 F-45 F-46 F-47 F-48 F-49 F-50

TEXTILE EQUIPMENT NEWS Number: T-1 T-2 T-3 T-4 T-5 T-6 T-7 T-8 T-9 T-10 T-11 T-12 T13 T-14 T-15 T-16 T-17 T-18 T-19 T-20 T-21 T-22 T-23 T-24 T-25 T-26 T-27 T-28 T-29 T-30 T-31 T-32 T-33 T-34 T-35 T-36 T-37 T-38 T-39 T-40

USEFUL ACCESSORIES Number: U-1 U-2 U-3 U-4 U-5 U-6 U-7 U-8 U-9 U-10 U-11 U-12 U-13 U-14 U-15 U-16 U-17 U-18 U-19 U-20 U-21 U-22 U-23 U-24 U-25 U-26 U-27 U-28

DYES AND CHEMICALS Number: D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8 D-9 D-10 D-11 D-12

Please print or write legibly

Name..... Title.....

Mill.....

Street .....

City..... State.....

TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y. JULY, 1953

Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS . . . Listed here for July are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

A 15-yd. automatic-shuttle embroidery machine is described in a bulletin by Robert Reiner, Inc. The machine has a 24-in. span, an automatic attachment for punching cards, a 4x4 repeat, a stitching width of 7¾4, automatic spanning, and other construction features. **(F-1)**

A 12-head twister for making cords, thread, and twine is described in a bulletin by Haskell-Dawes Machine Co., Inc. Models for wet twisting and dry twisting are available, and all 12 heads are driven from one master gear. The 5-in. take-up spool can have a 7-, 8-, or 9-in. traverse. A twist chart is included. **(F-2)**

Stainless-steel textile equipment is featured in a bulletin from Unistel Textile Machine Corp. Dry cans, back dryers, a cotton and rayon slasher, a color kettle, and a size kettle are described. **(F-3)**

A conditioner for nylon hosiery is described in a bulletin from The Industrial Dryer Corp. The automatic machine is said to increase perfect yields by 15%, reduce fisheyes and snagging, and speed up looping and seaming. Three standard sizes, 96, 120, and 240 doz., are available, and special sizes can be built. **(F-4)**

Slashers are the subject of a booklet from Cocker Machine and Foundry Co. The slasher head, cylinder section, and size box are treated in separate sections, and the answers to most questions about slasher construction are answered. **(F-5)**

Creels are described in a bulletin from Robert Reiner, Inc. Specifications are for truck, jack, magazine, heavy-duty, and magazine creels, and features such as the stop motions and tension device are described. **(F-6)**

Stainless-steel equipment from small vessels to complex fabrications is discussed in a bulletin prepared by Rodney Hunt Machine Co. A data sheet for requesting quotations on stainless-steel tanks is enclosed. **(F-7)**

AUXILIARY EQUIPMENT

"Heat Lines by Jensen" is the name of a new bimonthly publication put out by Jensen Specialties, Inc. The company makes electric and infrared heaters and conveyors. The publication is available to users of heating equipment. Installation stories and special heating problems will be featured. **(F-8)**

Stainless-steel thermometers are described in a bulletin prepared by W. C. Dillon & Co., Inc. The thermometers are available in 2¼-, 3-, and 5-in. dial and stem lengths from 2 to 72 in. Tolerance is 1%, and several ranges in Fahrenheit or Centigrade are available. **(F-9)**

A pressure transmitter for use with controlling and recording systems is described in a bulletin put out by Swartwout Co. The transmitter converts pressure changes into electrical signals to be picked up by the control equipment. **(F-10)**

Humidity control is the feature of a data sheet from Minneapolis-Honeywell Regulator Co. A new concept of humidity measurement is said to make possible direct readings from remote locations. A central control panel in a textile mill that controls nine zones and four air washers is shown. **(F-11)**

Industrial space heaters for areas where conventional heating is inadequate are described in a bulletin, Catalog 1510, put out by Westinghouse Sturtevant Div. The heaters are used with high-pressure steam systems and are of wrought-iron construction. **(F-12)**

A wrapping machine for packaging hosiery, diapers, sheets, etc. is described in a bulletin prepared by Package Machinery Co. The machine has a speed up to 40 packages a minute, and the goods may be on trays, flat cards, or in cartons. A labeling device is extra. **(F-13)**

Trucks for handling warp beams, sectional beams, and cloth rolls are described in a bulletin put out by J. W. Lewis & Co. The trucks are operated by a foot lever and a handle. Eight models are described in the bulletin. **(F-14)**

A bundle-tying machine is described in a bulletin prepared by National Bundle Tyer Co. The machine ties a bundle with jute or sisal twine at any point on the bundle, handles bundles from 1 to 20 in. in height, and ties up to 30 ties per minute. **(F-15)**

An automatic artificial respirator is described in a bulletin put out by Mine Safety Appliances Co. The machine

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT No. 64 (Sec. 34.9 P. L. & R.) NEW YORK, N. Y.

TEXTILE WORLD
330 W. 42nd Street
New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT No. 64 (Sec. 34.9 P. L. & R.) NEW YORK, N. Y.

TEXTILE WORLD
330 W. 42nd Street
New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

Reader Service (Continued)

provides intermittent positive pressure without suction in cases of respiratory failure. Dyehouses and bleach houses have the most use for it, but any plant will find it handy in case of emergency. **(F-16)**

Spectrophotometers are described in a catalog put out by Beckman Instruments Inc. Sample cells and other accessories are shown for the ultraviolet and visible spectrophotometers. **(F-17)**

SUPPLIES AND CHEMICALS

Ear stoppers that are said to reduce the noise level 35 to 40 decibels are described in a bulletin prepared by Mine Safety Appliances Co. The inserts cut the higher frequencies and don't interrupt ordinary hearing. Three sizes are available, and a carrying case keeps the inserts clean when they are not in use. **(F-18)**

Work gloves are described in a bulletin put out by Warlong Glove Mfg. Co. Flannel, hot-mill, chore, jersey, and leather gloves are shown. **(F-19)**

Methods of applying Paramul, a water-repellent finish, is the subject of a bulletin put out by American Cyanamid Co. The title of the bulletin is "Paramul Repellent DC-1 and DC-2." **(F-20)**

Dyeing assistants, sequestrants, detergents, and wetting agents are described in a catalog prepared by Antara Chemicals Div. The catalog lists the applications and presents the new nomenclature for Antara's line of products. **(F-21)**

A water-soluble gum, gum arabic, is described in a bulletin put out by Morningstar Nicol, Inc. The gum is used in sizes and as a binder for printing, and this bulletin is designed to acquaint you with the improved grades and inherent advantages of the gum. **(F-22)**

"Nopcostat Antistatic Treatments for Synthetic Fibers" is the title of a booklet made available by Nopco Chemical Co. Data includes requirements for processing synthetic fibers, suggestions for application, and amount of finish to use. **(F-23)**

A vinyl-coating system for corrosion control is described in a bulletin prepared by Prufcoat Laboratories, Inc. A heavy-duty primer binds to most metals even if they are already badly corroded, and the primer then binds to the vinyl coating. **(F-24)**

Plastic-coated work gloves that are highly chemical resistant are described in a bulletin from Mine Safety Appliances Co. The gloves come with knit wrists, safety cuffs, or gauntlets. **(F-25)**

"Mixed-Bed vs. Two-Step Demineralization of High-Pressure Boiler Feed Water" is the title of a booklet made available by The Permutit Co. The booklet presents a speech made at the American Power Conference by representatives of that company. **(F-26)**

Briar-Tex, a jacquard pattern paper for knitting machines made of varnish-coated linen, is described in a bulletin from Briar Products. Widths of $5\frac{13}{16}$, $6\frac{7}{8}$, and $10\frac{1}{4}$ in. are available, and a free sample is offered. **(F-27)**

ENGINEERING AND MAINTENANCE

Brake motors and brakes are described in a bulletin prepared by Elliott Co. The brake is connected to the same source as the motor; and one to six disks are used, depending on the stopping torque necessary. The brake lining is powdered metal fused under high pressure. **(F-28)**

A materials-handling checklist is a feature of a bulletin prepared by Towmotor Corp. The bulletin says to investigate receiving, storage, processing, and distribution for places to decrease handling costs. A fork truck unloading cotton two bales at a time from a railroad car is shown. **(F-29)**

An antirust paint that is available in five colors is described in a bulletin put out by Paramount Industrial Products Co. The paint is said to be good for

Eliminate the Guesswork!

CONTROLLED NAPPING

is here

90-inch, 24-roll double-action napper

Announcing

A NEWLY DESIGNED NAPPING MACHINE which simplifies this important step in cloth finishing. Take the old trial and error methods out of your napping room by investigating the 12 features listed below which add up to increased production and lower costs.

- completely safe operation
- less lubrication down time
- improved fabric protection
- complete fabric versatility
- elimination of guess-work
- redesigned enclosed drive and gears
- ease of cleaning
- negligible lint and fly problem
- simplified changes of cloth speed
- anti-friction bearings
- no change gears
- easily changed to single acting

Get the Best – get a NEW SIMPLEX

Write today

DAVIS & FURBER MACHINE CO.

NORTH ANDOVER, MASS.
CHARLOTTE, N. C.

Please let us have more information on the new Davis & Furber Napper.

*Name*_____

*Position*_____

*Company*_____

*City*_____ *State*_____

MOBILIFT "Stand-Ups" Stand Out!

MOBILIFT *Stand-Up* type Fork Lift Trucks *Stand Out* for efficient, low-cost materials handling in warehouses, terminals and plants because they get more work done faster.

Here's Why:

1. The operator gets on and off an ample size platform in a second or two. He works on his feet, has maximum all-around visibility.
2. MOBILIFTS are agile. Compact design, short over-all length, and MOBILIFT 360° steering mechanism makes ZERO inner turning radius and 57" outer turning radius possible (2,000 lb. model "E"). MOBILIFTS are long-time favorites for close, congested working areas.
3. LEV-R-MATIC push-pull controls speed all movements. NO GEARS TO SHIFT... push-pull levers for forward-back movement, elevating and tilting.
4. MOBILIFT air-cooled 3-cylinder engine delivers abundant, reliable power. Compact, precision-balanced, accessible for economical operation with minimum repair and service.

Let a MOBILIFT Sales Engineer show you why MOBILIFT *Stand-Ups* in your business will *Stand Out!* Write or wire MOBILIFT for complete information today. *No obligation,*

MOBILIFT Lev-R-Matic DRIVE

MOBILIFT CORPORATION

835 S. E. MAIN ST., PORTLAND 14, OREGON

2317 W. 18th, CHICAGO • 790 Patterson Ave., E. RUTHERFORD, N. J.

1113 Spring St. N. W., ATLANTA • 2724 Taylor St., DALLAS

2730 San Pablo Ave., BERKELEY

Reader Service (Continued)

wire fences, water towers, etc.; and it is applied by just brushing it on. **(F-30)**

Fluorescent fixtures are described in a catalog made available by The Miller Co. Fifty and 100 foot-candlers in various lengths and with turret or standard sockets or socket boxes are described, with specifications, dimensions, and illumination performance given. Accessories are also described. **(F-31)**

Stainless-steel electrodes for welding are described in a bulletin from Alloy Rods Co. Two basic types are offered: for all-position welding with d.c. reverse polarity and for welding of chrome-nickel steels with a.c. and d.c. equipment. **(F-32)**

Roof maintenance is the subject of a bulletin from The Monroe Co., Inc. The bulletin discusses the properties of roof coatings for protection and repair of roof surfaces and leaks. **(F-33)**

Aluminum sectional scaffolding is described in a brochure from The Patent Scaffolding Co. The folder contains information on ladder and rolling scaffolds and gives specifications and applications. **(F-34)**

Pipe-line filters for low-pressure lines are described in a pamphlet from Dollinger Corp. The filters remove dust, dirt, pipe scale, and condensed oil and water vapor from compressed-air lines; and they can be cleaned by removing one bolt. **(F-35)**

Starters for squirrel-cage motors are described in a bulletin from Allis-Chalmers Mfg. Co. How to select the proper starter and hints on heater elements for overload relays are features. **(F-36)**

"Friction, Abrasion, and Hardness of Rulon" is the title of a bulletin put out by Dixon Saddle Co. Comparison of the characteristics of this low-friction bearing material with other materials is a feature. **(F-37)**

Treating concrete with silicate of soda is discussed in a pamphlet, Bull. 34-1, put out by Philadelphia Quartz Co. Concrete is said to be hardened, dustproofed, waterproofed, oilproofed, and made acid resistant with the silicate of soda. **(F-38)**

Nonmetallic disk valves are the subject of a bulletin prepared by The Lunkenheimer Co. The disks come in three types: for saturated steam; for cold water, air, or gas; and for gasoline and oil. **(F-39)**

A variable-speed drive is described in a bulletin put out by Reeves Pulley Co. The drive converts standard-speed motors to a variable-speed drive with a speed ratio up to 8 to 1. Specifications and dimensions are given. **(F-40)**

An air-pressure dispenser of oil for feeding lubrication to elevated, distant, and inaccessible spots is described in a bulletin prepared by Oil-Rite Corp. An air-pressure gauge of 0 to 60 psi. is standard equipment. **(F-41)**

Bearings are the subject of a catalog prepared by Andrews Bearing Co. The catalog describes plain-ball thrust, grooved-ball thrust, banded-ball thrust, treadle-roll ball bearings, and plain flat-steel thrust washers. **(F-42)**

Roller chain and sprockets are the subject of a catalog prepared by Chain Belt Co. The catalog includes the advantages of roller chain, how to select standard drives, how to order, prices, and specifications. **(F-43)**

Pumps and compressors are the subject of a bulletin put out by Pennsylvania Pump and Compressor Co. The bulletin briefly describes air and gas compressors, vacuum pumps, valves, and centrifugal pumps for boiler-feeding, general power-plant, and industrial applications. **(F-44)**

GENERAL

A printing machine for making multiple copies of letters, reports, charts, etc. in your office is described in a bul-

Cross Section Tula-Pad

Ever sit on Cactus?

Believe it or not—that's exactly what this lady's doing... *relaxing on a cushion of cactus!*

Naugatuck's Lotol®—a special latex compound—binds springy cactus fibers together to form Tula-Pad,* an amazing cushioning material used by Bunting Glider Company, Philadelphia, one of the largest manufacturers of lawn furniture.

Extra resilient! This comfortable cactus-Lotol cushion has withstood loads of 100 lbs. per square foot with *a minimum* compression set! Fibers are securely locked together—can't bunch, pack down, or pull apart.

Far lighter! Airy Tula-Pad weighs only *1/3 as much* as ordinary, less efficient, filling materials—cushions are a cinch to carry. And air circulation *keeps them cool and comfortable.*

Cut to size! Thanks to its Lotol binding, this material can be die cut to your required size and quickly covered. With practically no make-ready, it is *extremely easy* to install.

What's more, the Lotol-locked fibers resist rot or mildew and last for years and years. *And* Tula-Pad is relatively inexpensive!

Perhaps you, too, can be "sitting pretty"—with Lotols. Produced by the world's leader in fine latices, they're compounded to *your specific needs*—for bonding, coating, dipping, sizing, saturating, any latex application.

Learn more about Lotols and the product potential they offer you. Write to the address below.

*Queen City Tulatex Corp., Burlington, Vt.

Naugatuck Chemical

Division of United States Rubber Company

147 Elm Street, Naugatuck, Conn.

Branches: Akron • Boston • Charlotte • Chicago • Los Angeles
Memphis • New York • Philadelphia
IN CANADA: Naugatuck Chemicals, Elmira, Ontario

STEEL
Hot and cold rolled bars, shapes, flats • Structural and junior beams, angles, channels • Stainless • Rigid-Tex • Galvanized sheets, strip, bars and shapes
ZIPPY
DIRECT

From Warehouse to you!

Now—from the South's newest and most modern steel warehouse—a larger-than-ever variety of ferrous and non-ferrous products is within reach of your telephone or overnight mail—ready for rapid delivery by rail or truck to any point in the Southeast.

METALLURGICAL SERVICE

Without cost or obligation, the services of our complete testing laboratory and metallurgists are available to help you choose correct metals, find suitable substitutes when necessary and advise on the use of stainless, alloy, high and low carbon steels.

To receive our stock lists as issued, drop us a line or give us a ring.

"Service in Step with Southern Progress"

WAREHOUSE DIVISION

Atlantic Steel Company

575 FOURTEENTH ST., N.W. • EMERSON 3451 • ATLANTA GEORGIA

Reader Service (Continued)

letin from Graphic Microfilm Corp. The printer makes three copies in a minute on ordinary paper. Price is $240. **(F-45)**

"The Modular Method For Lower Industrial Construction Costs" is the title of a brochure from The Ferber Co. Walls may be of brick, aluminum, concrete block, or a combination of these materials. The construction is suited for buildings from 10,000 to 500,000 sq. ft. **(F-46)**

A pulley and speed calculator for sewing-machine drives has been made available by American Safety Table Co., Inc. A sliding window shows the sewing-machine speed and handwheel diameter. **(F-47)**

"Primer for Selling Vicara" is the title of a pamphlet made available by Virginia-Carolina Chemical Co. The pamphlet is written for the consumer and explains the properties of Vicara, what it adds to blends, and how to wash and iron Vicara fabrics. **(F-48)**

The testing services of South Florida Test Service are described in a bulletin now available. Some of the tests offered are for weathering and corrosion, colorfastness, and wearability of textiles. **(F-49)**

"Your Skill-Improvement Program," revised edition, is now available from the Bureau of Apprenticeship, U. S. Dept. of Labor. The booklet provides a checklist for your present training system, and it outlines the services available from this bureau. **(F-50)**

Pointers for Supervisors

(*Continued from page 139*)

tions the world has ever known. I have personally learned over the years, beyond any doubt, that this great principle, when properly interpreted and applied, is indeed the best of all guides to follow in dealing with individuals.

A supervisor should study each individual employee and try to determine what each expects of him. If the supervisor knows what is expected of him, then he should have little trouble in doing the correct things toward improving his relations with his employees.

These five points should be of some assistance to a supervisor in improving relations with the people he supervises:

1. He should accept the challenge to improve his relations with the people he supervises and request that all service departments help him.
2. He should use his relations-improving know-how prior to asking for help.
3. He should strive to get faith in and enthusiasm for all relations-improving techniques prior to attempting to use them.
4. He should accept the fact that people are all different and make the best of it.
5. He should study each individual employee and try to determine what each expects of him.

Relations improvement isn't pos-

which of these feed-in duct features *rate highest with you?*

architects

rate these SQUARE D features particularly high:

lowest known voltage drop . . . maximum efficiency, minimum power loss

smallest cross-sectional area . . . conserves valuable installation space

contractors

give these features top billing:

reduced installation time . . . simplified components, factory prefabrication

new joint design (*lower right*) . . . all joint ends identical, connection bolts face outward

interchangeable standard fittings . . . permit horizontal or vertical riser applications

users

vote these SQUARE D features tops:

low cost installation and maintenance . . . most accessible connections

totally enclosed . . . permanent safety construction, excludes dust

completely reuseable . . . rearrangement with the same components

EXCLUSIVE JOINT DESIGN

SQUARE D's exclusive joint design saves installation time and reduces maintenance cost. Joint ends are identical—unnecessary to select mating ends before positioning or hanging duct sections. Outward-facing, pre-installed bolts permit rapid assembly and easy maintenance.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

1903 · **50** YEARS OF DESIGN LEADERSHIP · 1953

how do YOU pronounce
HINDE & DAUCH

HINDE rhymes with FIND
DAUCH is pronounced DOWK

Say HIND and DOWK
America's Authority on Packaging.

our 65th year
H&D®

CoraGated

©H&D

HINDE & DAUCH

SANDUSKY 19, OHIO

17 MILLS AND FACTORIES • 40 SALES OFFICES

sible, and many supervisors have proved that they can do the job. These men have tackled the job on a day-to-day basis and have actually spent their time in bringing about good relations instead of just talking about it. Don't wait for your relations to improve by chance. Put whatever God-given ability you have for developing and maintaining better relations to work right now. If you do, you are likely to be surprised in a very short time to find that you have made more progress than you ever thought you could possibly make in this vital area of your job.

New Slasher Equipment

(*Continued from page 117*)

slasher-room employee pushes a button to fill the tank; the supply of starch is stopped automatically when the tank is filled.

"A weighing hopper is filled from the 4,000-lb. tank, and the cooking kettles are filled from the hopper.

"We aren't concerned with the possibility of explosion because the engineers who designed the storage system claim it is not explosive."

Viscosity Control of Size Is Not Fully Explored

The testing and control of viscosity of size hasn't been explored to any great extent by the Alabama executives. Only three men commented on the subject:

Mill B—"We tried an instrument for testing the viscosity of size but found it unsatisfactory for our purposes. We have automatic temperature controls on all our slashing equipment and always get good results and size uniformity."

Mill E—"We control size viscosity by rigid and consistent adherence to predetermined mixes. Our employees always use the same procedure when they mix size.

"Proper maintenance of machinery also helps us keep our size viscosity constant.

"Since we run only two size mixes, we have not found it necessary to test the size for viscosity."

Mill F—"We are experimenting with a Brookfield viscosity-control instrument and a recorder to control the viscosity of the size between the homogenizer and the storage kettle. Since we have just started the work, we don't have any results to show at present."

Better Warps Are Made With New Slasher Drives

Both P.I.V. drives with tension control and multimotor drives are giving

For more information, write direct or use Reader Service post card.

a step upward in seeing comfort...

25% upward light insures a new high in comfortable seeing by eliminating sharp ceiling contrast or harsh shadows

As illuminating engineers know, it is not TOO MUCH LIGHT which causes seeing discomfort. Often the cause is TOO MUCH CONTRAST... distracting contrast between unlighted ceilings and light walls. UPWARD LIGHT is one important way to solve this "brightness-ratio" or extreme contrast problem!

It took a radical departure from run-of-the-mill fixture design to take maximum advantage of the upward light principle. The result is "Task-Master"—featuring sensationally increased 25% upward light for greater seeing comfort combined with 35° lamp shielding for better protection against glare!

The success of "Task-Master" is due to bold engineering initiative which devotes the entire length of the unit to the prime purpose of delivering MORE UPWARD LIGHT and FINER QUALITY LIGHT, unhampered by ballasts, wiring or other obstructions. All control equipment is centralized in the ends where it cannot interfere with upward light... all wiring runs through a unique "spine" support which also serves as lamp shield. Truly, a step UPWARD in seeing comfort.

BENJAMIN

Task-Master

of fluorescent industrial lighting equipment

Sold exclusively through electrical distributors

a step forward in easier installation and maintenance...

new detachable reflectors cut maintenance manhours!
exclusive "Springlox" lampholders speed re-lamping!

One of the many precedent-shattering "Task-Master" features is the detachable-reflector arrangement pictured here. Hinged, to facilitate easier, more thorough cleaning right on the fixture, or quickly unhinged and replaced with previously-cleaned reflectors, this unique system saves many manhours while encouraging regular maintenance and better plant housekeeping.

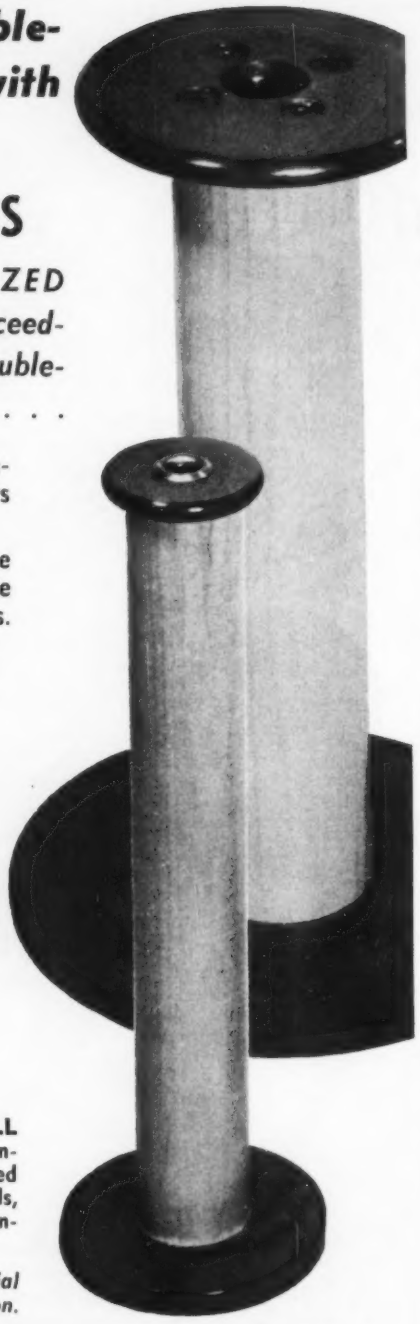
Patented **"Springlox"** lampholders are standard equipment on all "Task-Master" Units. All-metal "life-time" construction and exclusive spring design have made "Springlox" famous for vibration-proof operation and "easy-in, easy-out" lamp servicing. Send for your FREE copy of Bulletin AD5906 for complete "Task-Master" details. Benjamin Electric Mfg. Co., Dept. EE, Des Plaines, Ill.

A Product of Benjamin Electric Mfg. Co., makers of famous Benjamin and Leader Line Lighting Equipment and Sound Signals for Industry, Institutions and Commerce

Assure long, trouble-free production with

LESTERSHIRE TWISTER BOBBINS

THE HARD VULCANIZED FIBRE HEADS assure exceedingly long wear with trouble-free production because . . .



- Every bobbin is specially designed and fabricated for its particular application.
- "Lock-in" brass spindle bearings prevent spindle wear in large size bobbins.
- Tubing prevents winding or twisting of the barrels of slim bobbins.
- Special anchor screws on large size bobbins, guard the drive slot from wear.
- The hard vulcanized fibre heads remain smooth throughout the long life of these fine custom-made twister bobbins.
- Using them is true economy.

LESTERSHIRE BOBBINS OF ALL TYPES are made from hard vulcanized fibre, Phenolite (Laminated Bakelite), and other stable materials, to meet specific requirements of individual mills.

LEARN NOW how Lestershire special bobbins will improve your production.

LESTERSHIRE SPOOL & MFG. CO.

140 BALDWIN STREET **JOHNSON CITY, N. Y.**

Division of National Vulcanized Fibre Company

BRANCH OFFICES AND TECHNICAL SERVICES:

CLIFFORD E. LATHROP—7 Whitney Avenue, New Haven 10, Conn.
W. H. HOBBS—Room 833, 30 Church St., New York 7, N. Y.
WM. S. RICHARDS CO.—Clayton, St. Louis 5, Mo.
ODELL MILL SUPPLY CO.—Greensboro, N. C.
NATIONAL FIBRE CO. of Canada, Ltd.—Toronto
GREENVILLE TEXTILE SUPPLY CO.—Greenville, S. C.
NATIONAL INSULATION CO.—Chicago 12
NATIONAL VULCANIZED FIBRE CO.—Detroit
NATIONAL VULCANIZED FIBRE CO.—Cleveland
NATIONAL VULCANIZED FIBRE CO.—Cincinnati

excellent results on slashers in Alabama mills. Most mill men reported that they are using these drives.

Few men have used rubber-covered tension rolls, but the men who are using these rolls like them. The foremen say:

Mill A—"We used to have a P.I.V. drive between the size box and the first drying cylinder on a slasher. The drive was reasonably satisfactory, but the results did not compare with the results we're getting with multimotor drives.

"Four slashers in our mill are now equipped with Westinghouse multimotor drives, and they are satisfactory in almost every way. We do have some trouble, though, in changing from heavy sets to light sets.

"We have been able to increase our slasher production by about 20% because there is a gradual stop instead of a sudden stop when multimotor drives are used. As a result of this condition, we are able to run less tension on beams in the creel, which contributes to the speed increase.

"Most of our warps are fairly light, with an average of 3,300 ends per loom beam. The warps are made from dyed beams of 30s yarn. Most of the yarns are single, but we have run plied yarns in the selvages.

"Other results of the multimotor drives are:

1. Our waste is lower.
2. The number of loose ends has been cut by half.
3. The number of pieces of warps has been cut by half.

"The four slashers have been equipped with rubber-covered rolls for about a year, and we have found the rolls extremely satisfactory. In the past, our slashers were rather rough running because the laps in the cushion at the tension roll caused the pressure rolls to bounce at high slasher speeds. The rubber-covered rolls have completely eliminated the bouncing.

"Only one roll has been buffed in the one-year period."

Mill B Reports Only 1.75% Yarn Stretch

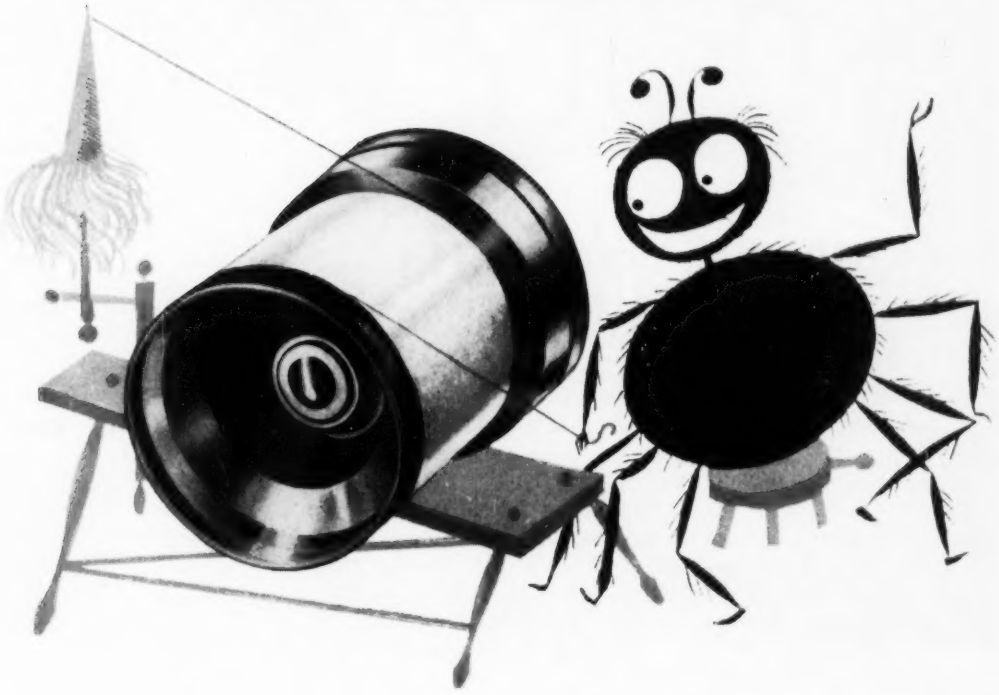
Mill B—"P.I.V. drives and tension controls have given us good results. But our maintenance costs have become excessive after 8 to 10 years of service.

"Multimotor drives result in more-even yarn, a positive driving condition, and less yarn stretch."

Mill C—"Multimotor drives have improved the production of our slashers because these drives require less maintenance than other drives we have used.

"More-even beam tension and smoother starts have resulted in fewer

We've put more than 150,000 spiders to work . . . spinning flawless rayon!

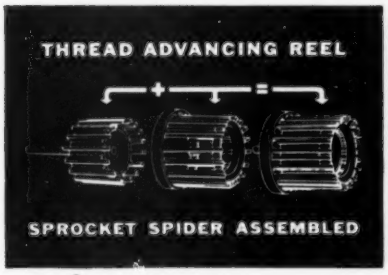


MORE UNIFORM RAYON than can be produced by any other method is delivered by the spiders of Industrial Rayon's Continuous Process machines.

THIS IS NOT MYTH BUT FACT—for the ingeniously engineered carriers of the famed thread advancing reel are actually called spiders. As the spiders carry rayon yarn from reel to reel it is spun, bleached, dried, treated and twisted as a single strand along its miles and miles of length.

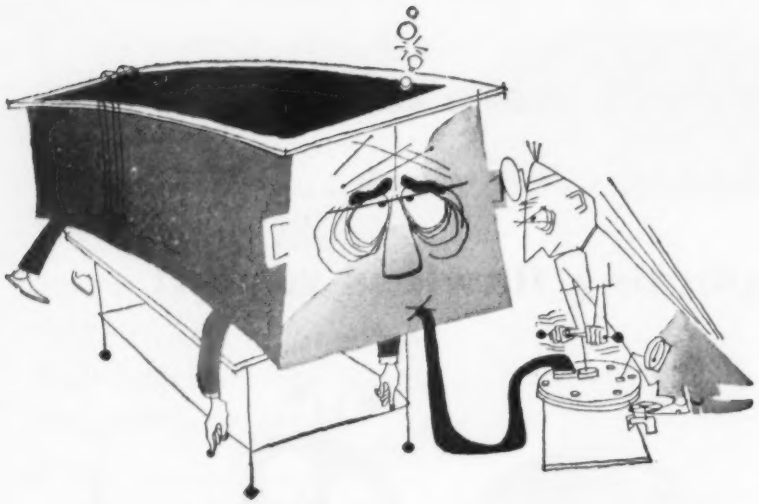
EVERY INCH RECEIVES the same uniform treatment. Because of this, the spiders deliver a rayon yarn of unsurpassed uniformity of denier and strength. Since it is never touched by human hands, knots and broken filaments are greatly reduced.

CONTINUOUS PROCESS is *the one process* that saves weavers costly seconds due to chronic yarn imperfections. No wonder I.R.C. rayon yarn has become the quality standard among quality weavers.



IRC

 For more information, write direct or use Reader Service post card.



has coil-itis* cramped your production flow?

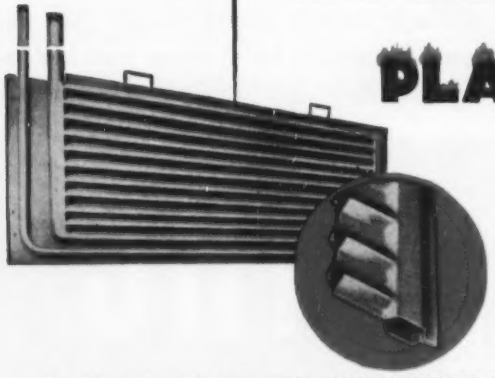
It's a waste of costly time to pump out the solution every time your process heating and cooling tanks get indigestion due to pipe coil troubles. You can save this cost and eliminate production bottlenecks by replacing the pipe coils with Platecoils. Platecoils can be removed and replaced **without dumping the solution.** They simplify maintenance and save hours of downtime. They heat or cool 50% faster and take 50% less space in the tank. As revolutionary as the new wonder drugs, Platecoils cure production troubles involving heat transfer . . . and give profits a shot in the arm.

Write for bulletin P32 today!

PLATECOILS SAVE 50% IN HEAT TRANSFER COSTS

PLATECOILS TRIPLE PRODUCTION

At Continental Motors Corp., 3 crankcase sections can be cleaned at one time when Platecoils are used while only one crank case can be cleaned with pipecoils in the tank. Ask about other case histories.



PLATECOIL

REPLACES PIPE COILS

*Coil-itis — Diagnosed as tank heating and cooling problems. Platecoils — the prescription for solving pipe coil problems.

PLATECOIL DIVISION, TRANTER MANUFACTURING, inc., LANSING 4, MICHIGAN

broken ends and, consequently, improved quality of loom beams."

Mill D—"We have had no experience with multimotor drives, but we use P.I.V. drives and tension control between the size box and cylinders. The results are good.

"One of our tension rolls is rubber-covered. Since we have been using the roll for only a short time, we don't know what our results are."

Mill E—"We have P.I.V. drives on three slashers. With these drives, we have better—1.75% actual stretch—control of our warp tension."

Mill F—"We think P.I.V. drives give us complete control of the warp tension between the size box and the cylinders.

"Our multimotor drives keep warps at a constant tension. Our slashers start and stop smoothly. Yarn is wound on the loom beam evenly all the way through the warp. We are able to get 10 to 12% more yarn on loom beams."

Mill G—"Our experience with P.I.V. drives and tension controls has been satisfactory."

Multifiber Mill

(*Continued from page* 93)

The weave-room personnel can tell at a glance where any style or pattern in the weave-room is located, the style and pattern that will replace it within the next 24 hrs., and the percentage of a job load that any weaver's set of looms contains.

Warping foremen check the board daily to see which warps will be cut out and which will be tied back.

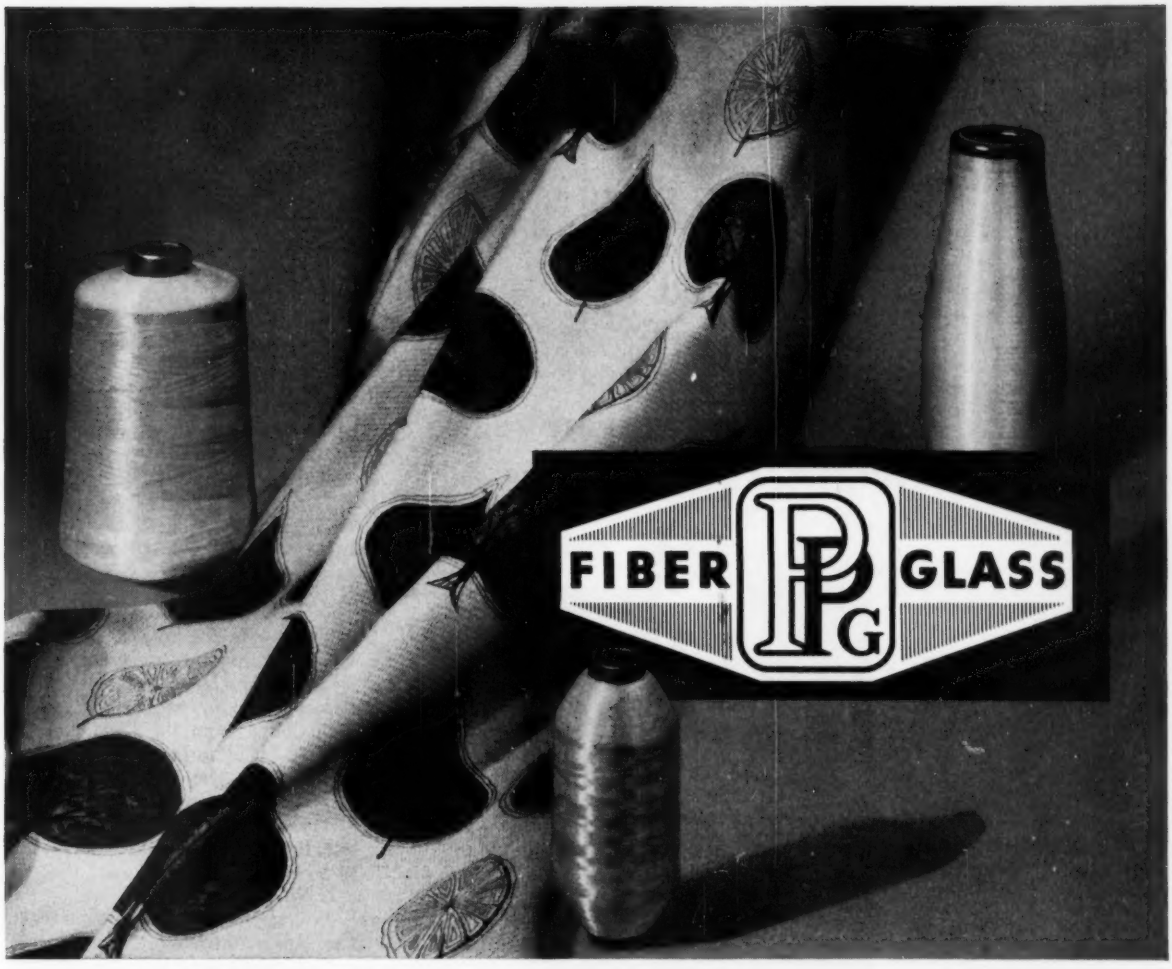
Loom reports for all departments requiring any of this information are made from the board.

Weave-Room Organization And Slasher Control

The weaving organization is directed by a superintendent of weaving. A weave-room overseer works directly for the superintendent of weaving and directs the shift foremen on the first shift and the second- and third-shift overseers who supervise their own shift foremen.

Mooresville's superintendent of weaving has charge of slashing, in addition to weaving, and has an unusual practice that helps in keeping the weave-room supplied with high-quality warps.

A graph that shows defective warps made by each slasher operator is posted in the slasher room. Each operator's name is on the graph, and a bar is marked after an operator's name when the weave room reports a bad



High quality yarns for easier textile manufacture

Pittsburgh Fiber Glass yarns eliminate problems encountered in weaving cloth to specifications when fiber diameters vary. Through a control system perfected in the nation's newest fiber glass plant, Pittsburgh is attaining an exceptional degree of fiber uniformity throughout each package.

Your inspection and tests of Pittsburgh Fiber Glass yarns are invited. Arrangements may be made through our executive offices, or district sales offices in Chicago, Cincinnati, Cleveland, Detroit, New York and Washington. Pittsburgh Plate Glass Company, Fiber Glass Division, 420 Fort Duquesne Boulevard, Pittsburgh 22, Pa.

FIBER PPG GLASS **PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS**

PITTSBURGH PLATE GLASS COMPANY

 For more information, write direct or use Reader Service post card.

When *Synthetic Yarns* are dyed by GLOBE

you are assured Bright, Clear Colors

Globe-dyed synthetic yarns also assure good hand and superior knitting and weaving qualities.

1865 Globe DYE WORKS CO. 1953

Globe does package dyeing on tubes, skein and warp dyeing, warp mercerizing, and sizing.

Yarns we process include cotton, rayon, worsted, nylon, linen, blend and novelty yarns. Also Acrilan—Dacron—Orlon.

4500 Worth Street Philadelphia 24, Pa.

warp made by him. Each complaint is written.

When the graph system was first used, most bad warps were made by a few operators. Training of operators and other corrective steps were taken, and now few bad warps are made.

Weave-room practices that keep production high are production boards showing each weaver's and loomfixer's daily production and each shift's production.

Another record sheet has increased production by showing the time lost on each loom for warp changes each week. The record shows who is at fault when a loom stands too long at warp changes; and, consequently, everyone concerned with warp replacements plans his work to eliminate delays.

First Cuts Of Cloth Are Inspected at 44 Yds.

Seconds are held to a low percentage at Mooresville because strict quality-control methods are used.

Piece tickets are taken to the gray-inspecting room with each roll of cloth doffed from the loom. As the cloth is being inspected, the defects are noted on the back of the piece ticket in four groups:

1. **Warp defects**
   Broken ends, ends out, slack ends, etc.
2. **Filling defects**
   Sloughed-off filling, broken picks, kinky filling, etc.
3. **Weaving defects**
   Misreeds, hooks off, floats, etc.
4. **Miscellaneous defects**
   Hard size, holes, grease spots, etc.

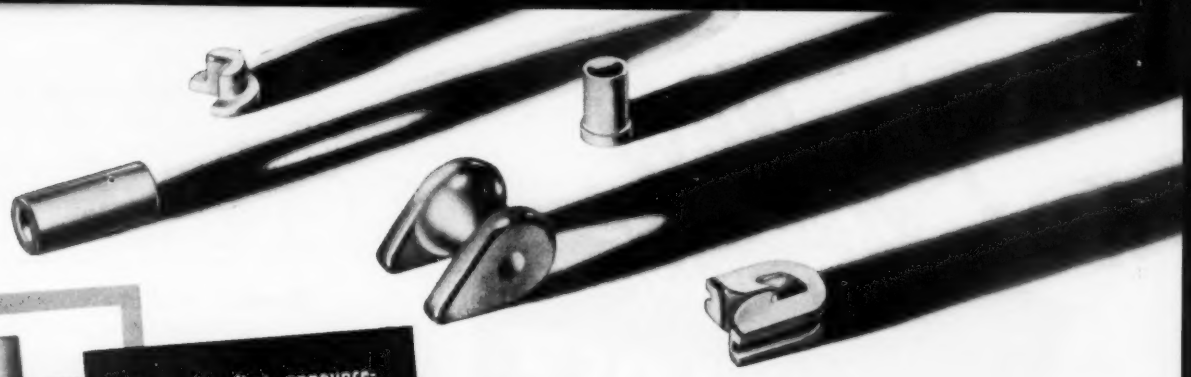
When a roll of inspected cloth is defective, the piece ticket is returned to a shift foreman in the weave-room. The foreman checks the loom that made the seconds and has the loomfixer make necessary adjustments to correct the fault.

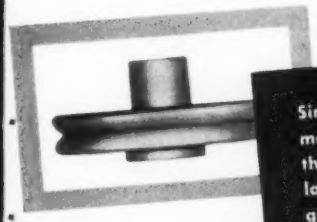
The ticket is left on the loom for one week and then is turned in to the superintendent of weaving, who spot-checks many of the looms to see that the defects have been eliminated.

Any roll of cloth that contains a defect of a continuous nature, such as hooks off, broken picks, or balks in the filling pattern, is shown to the weaver and loomfixer at fault.

The first cut of cloth on all new warps is doffed at 44 yds. and promptly inspected in the gray-inspecting room. The inspection results are reported to the superintendent of weaving and shift overseer. The overseer checks the looms when he receives these reports, and the superintendent spot-checks them.

Seconds reports are posted daily for





Since the first announcement of these guides more than two years ago, popular demand has been so great that this advertisement is repeated with the addition of three new AlSiMag guides. These guides are thoroughly proved by constant use in several hundred mills.

ALSIMAG® GUIDES for WHITIN-SCHWEITER QUILL WINDERS

These AlSiMag Guides have been thoroughly proved in the winding of synthetic yarns at terrific speeds.

ADVANTAGES:

LONGER LIFE—Many mills report that these AlSiMag guides give 10 to 15 times the wear obtained from their best former guides.

LIGHTER TENSIONS—AlSiMag guides can be supplied in satin or highly polished finish.

MORE UNIFORM TENSIONS—AlSiMag guides are homogeneous and are uniform physically and dimensionally.

LESS GUIDE BREAKAGE—All AlSiMag materials are considerably stronger than ordinary ceramic guide materials. AlSiMag 513 has almost double their mechanical strength.

BETTER QUALITY YARN—Hard, homogeneous AlSiMag has no surface skin to wear through, cause undetected yarn damage. Guide wear is very gradual, simply exposes new surfaces of the same character as the original.

AlSiMag No. GE-20256

AlSiMag No. GS-24909-A

AlSiMag No. GE-28390

AlSiMag No. GU-10713-B

AlSiMag No. GE-16861

AlSiMag No. GS-24244

AlSiMag No. GE-15978

These AlSiMag Guides are available in either satin finish or highly polished finish in any of these AlSiMag materials.

ALSIMAG 192—(Considered standard). A non-conductor of electricity. Hardness of 8 on Mohs' scale. Gives exceptionally long life on most requirements. Ivory color.

ALSIMAG 193—A conductor of electricity, used for dissipating static charges. Metallic gray color. Otherwise it is identical to AlSiMag 192.

ALSIMAG 513—Super hard (9 on Mohs' scale), resistant to cracking, chipping, great mechanical strength. Its cost is justified where excessive wear is experienced or where satin finish must be maintained under severe conditions. Pink color.

TEST SAMPLES ON REQUEST

Try these AlSiMag Guides on your Whitin-Schweiter Quill Winders. You'll find that they are the best and by far the most economical.

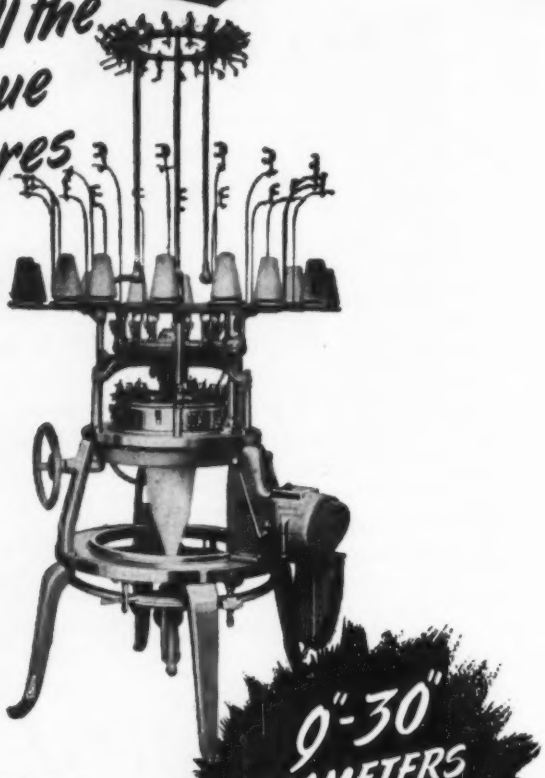
52ND YEAR OF CERAMIC LEADERSHIP

AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENNESSEE

SALES ENGINEERS: NORTH AND EAST: Jay S. Gosnell, 671 Broad St., Newark, N. J., Mitchell 2-8159. SOUTHEAST: Joe E. Spearman, 401 Belton St., Charlotte, N. C., 4-1525. ALL OTHER AREAS: J. B. Shacklett, American Lava Corporation, Chattanooga 5, Tenn., 5-3411. CONTINENTAL EUROPEAN REPRESENTATIVE: P. C. Huguenin Luzern, Gerbergasse 6, Luzern, Switzerland

The New
Mellor—MBI—Bromley
INTERLOCK
Multifeeder and stripe or check pattern machines
with all the unique features



9"-30" DIAMETERS
20-24 CUTS

★

Send for full details, to the builders of more than 7000 Interlock machines operating successfully in almost every country in the world.

K.S. 17A

MELLOR BROMLEY & CO. LTD
LEICESTER · ENGLAND

In the U.S.A.: The Mellor Bromley Group Inc., 432 Fourth Avenue, New York 16, N. Y.
Telephone: Murray Hill 4-3686. Cables: Melbrom, New York.

each weaver and set of looms, for each loomfixer and section number, and for each shift foreman.

Weavers are required to inspect the cloth on each loom with a flashlight and initial the cloth within both the first and last two hours of each shift.

Blanket Making

(*Continued from* page 97)

being exhausted in the same manner in which the Abbott quillers are creeled.

Almost continuous creeling is necessary, but a winding operation has been eliminated.

Each warp end goes through two stop motions to insure a quick stop when an end breaks.

The warp is run on a reel mounted on a carriage. When the reel is filled with yarn, the carriage is moved along a track to a pressure beamer. While the yarn on the reel is being transferred to a loom beam, a second reel on a second carriage is being filled from the creel.

Multicolor warps can be beamed as easily as plain-color warps; and since the length of warps is controlled by the creel, waste yarn is reduced.

Warps Are Not Dressed, and Drop Wires Are Not Used

Warps are so strong that they do not have to be dressed to weave at a high production figure.

Warps are not tied back when they run out at the loom but are cut out. Each new warp is drawn in by hand in the beamer room.

The weave room is next to the beamer room; and, again, materials have to be moved only a short distance to the next process.

Lebanon does not use drop wires on the warps in the looms. Wool stock of good quality, well-processed yarns, looms frequently patrolled by the weaver, and well-trained burlers make stop motions unnecessary for most of Lebanon's blankets.

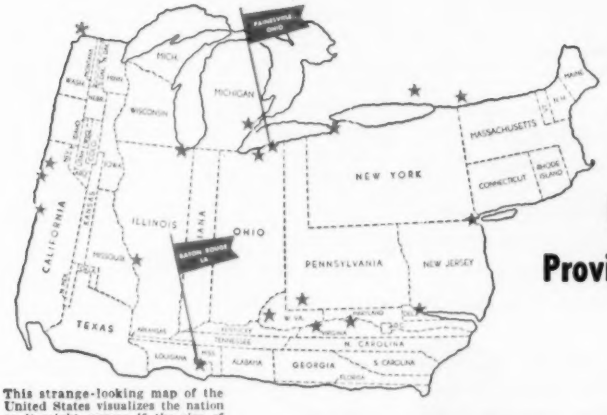
The saving in time for tying on new warps without drop wires over the time required to tie on warps with drop wires more than offsets any disadvantages that occur from the lack of warp stop motions.

Quality- and production-control practices used in most well-organized weave rooms are used at Lebanon. For example, a production sheet is posted each 24 hrs. to show the efficiency and seconds of each loom, weaver, and loomfixer on each shift.

Each cut of cloth contains 20 to 30 complete blankets. The 36 automatic looms produce approximately 40,000 finished pounds per week.

The blankets are inspected and

Announcing TWO MORE GENERAL CHEMICAL Sulfuric Acid Plants



This strange-looking map of the United States visualizes the nation as it might appear if the size of each state were determined by the value its manufacturing concerns add to the nation's industrial output. It is based upon the figures appearing in the 1949 and 1950 Annual Survey of Manufacturers prepared by the U. S. Department of Commerce, Bureau of the Census.

Now! America's Foremost Producer Provides Industry with 20 *Sources of Supply*

As the nation's needs for Sulfuric Acid spiral steadily upward, General Chemical again adds more plants to its network of sulfuric production facilities in this country and Canada*.

Now, large new acid facilities are going up at Baton Rouge, La., and Painesville, Ohio, to serve expanded demands in those areas. These plants are an important part of the company's continuous, long-range development program aimed at providing Industry with convenient, dependable sources of supply for this vital basic chemical.

That's why—when you deal with General Chemical—you will be served not just by one plant, but through 20. Each augments the facilities and output of the others. Together they form a coast-to-coast "pipeline" that can supply your needs equally well, whether you operate in one location or several . . . from the Great Lakes to the Gulf . . . or from Massachusetts to California.

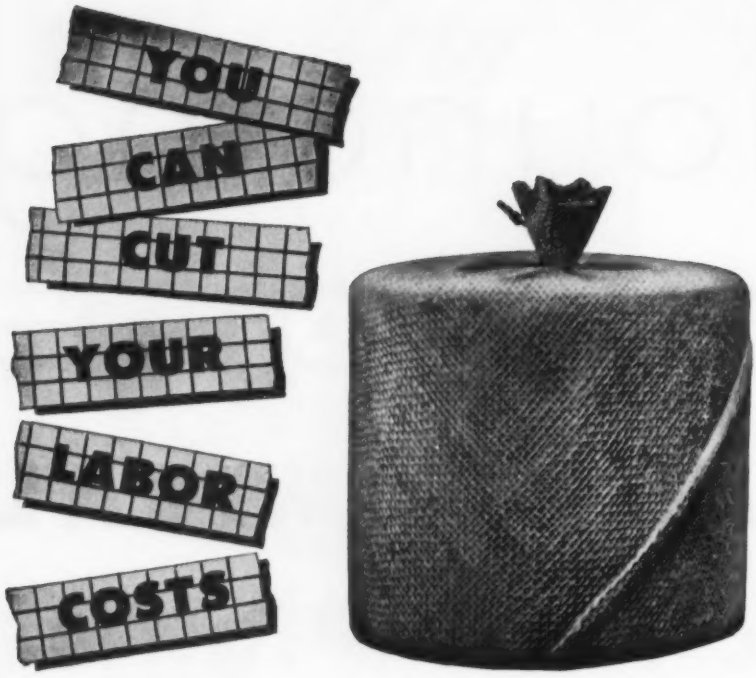
Just phone or write the nearest General Chemical office for further information on how General's Sulfuric facilities can best be put to work for you.

Allied Chemical

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.
Offices in Principal Industrial Centers from Coast to Coast

*In Canada, The Nichols Chemical Company, Limited

 For more information, write direct or use Reader Service post card.

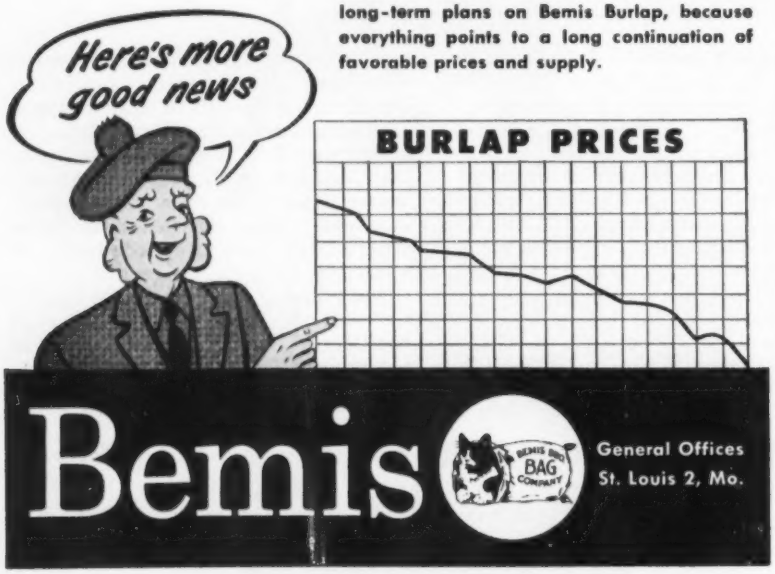


Use Bemis Tite-Fit Tubing!

Bemis Tite-Fit Tubing . . . the spiral-sewn burlap tubing with the 2-way stretch . . . is the fastest, easiest, most economical wrapping for rolls or bales of goods. Ask the Bemis Man to demonstrate.

Whatever your needs, we can furnish mixed carloads of burlap piece goods in a wide assortment of widths and weights.

Prices are down! What's more, you can build long-term plans on Bemis Burlap, because everything points to a long continuation of favorable prices and supply.



Bemis

BEMIS BRO. BAG COMPANY

General Offices
St. Louis 2, Mo.

burled in the weave room near the looms. Weavers and loomfixers are shown faulty cloth soon after it's inspected so that errors can be corrected immediately.

The finishing plant is located next to the weave room. Blankets are washed, carbonized, napped, dyed, bound, inspected, and boxed in the finishing plant.

The Machinery Is Stopped Ten Minutes on Each Shift

Raw stock is received at the same shipping point used to ship finished blankets. The raw stock, in a complete round of processing, goes up an elevator, straight through the second floor of the building, down an elevator at the end, and back through the first floor of the building to the shipping point. Materials do not backtrack at any process in the manufacture of the blankets.

An interesting feature of Lebanon's manufacturing program is that, in addition to regular rest periods, the machinery of the entire plant is completely stopped for 10 mins. on each shift. The stop takes place at about the middle of each shift, and only one department is stopped at a time.

During the time the machinery is stopped, the employees are urged to get completely away from their jobs and relax. Immediately following the beginning of this practice, mill production increased and has continued to hold the increase.

Analyses of Waste

(*Continued from page 133*)

centages. **If a similar simple check on fiber-length values were available, more attention would be given to card and comber settings, speeds, and adjustments.**

Mention has been made only of card strips and comber noils. The same statements can apply, in many cases, to opening, picker, and card-fly wastes. Roving-frame top-clearer waste has also been shown by fiber-length analysis to contain an excess of long fibers. This excessive long fiber was caused by the nature of the top-roll covering. A change of top rolls corrected this trouble and improved the running and cleanliness of the frame.

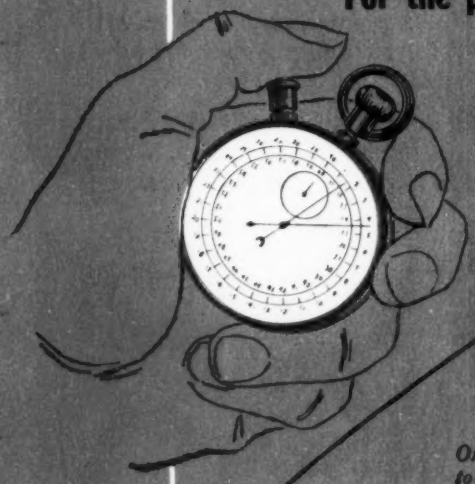
Few Mills Have Program

Comparatively few mills, even those with laboratories, have any defined program for analyzing the spinnable-fiber content of their wastes. Some mills have long realized the importance of this good-fiber loss but have considered that the time and labor

For more information, write direct or use Reader Service post card.

1953 IS OUR ANNIVERSARY

For the past 4 years in GREENVILLE, S.C.



it has been only a matter of minutes to get your orders rolling for

HFL IMPROVED LOOM PARTS

in these two ways:

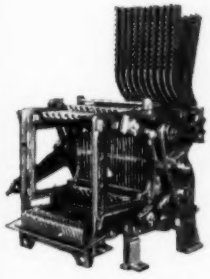
1 **FROM OUR SOUTHERN DIVISION WAREHOUSE**
in Greenville, where we carry a substantial stock of the items most in demand.

Our delighted mill friends tell us that LIVERMORE SERVICE to the Southern mills has been all that one could ask for.

2 **FROM OUR MAIN PLANT**
in Boston, which is connected by direct Teletypewriter for immediate recording of orders.

As the pioneer manufacturer of IMPROVED LOOM PARTS, established 66 years ago, H.F. LIVERMORE CORPORATION will continue to improve the design and the materials used . . . so that HFL IMPROVED LOOM PARTS will always insure minimum cost per yard of production.

Did you see these items, recently advertised?



DOBBY HEAD

THREAD CUTTERS

ROLLING EVENER COMB

HFL
IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

SOUTHERN DIVISION

GREENVILLE: W. T. JORDAN, 123-125 Henry St.

ATLANTA: E. W. FANNING, 407 Jefferson St., East Point

CHARLOTTE: C. E. MOORE, 2323 Morton Street

Executive offices and main plant, Boston 34, Mass.

SUPPLY MANAGER: James B. Hood
Southern Division Headquarters
123-125 Henry Street
Greenville, South Carolina
Phone: Greenville 5-5531

Lower your costs by switching to Stainless Steel Valves

In many services in the Textile Industry, ordinary steel valves seem adequate — for awhile. But later on corrosive fluids take their toll. Excessive maintenance and replacement begins.

When you install (or replace with) Powell Stainless Steel Valves, their much longer life and lower maintenance will repay, many times over, the slight differential in the cost of these valves.

The Wm. Powell Co. Cincinnati 22, Ohio

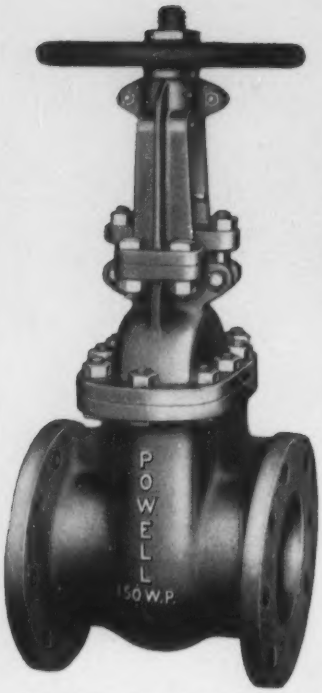


Fig. 2453-G — Large 150-pound Stainless Steel O. S. & Y. Gate Valve. Precision-fitted, accurately guided interchangeable solid or split wedge. Separable yoke arms in sizes 5" to 30", incl.

Fig. 1832—200-pound Stainless Steel Gate Valve with screwed-in bonnet. Sizes ¼" to 2", incl.

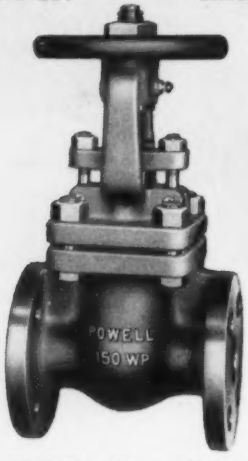
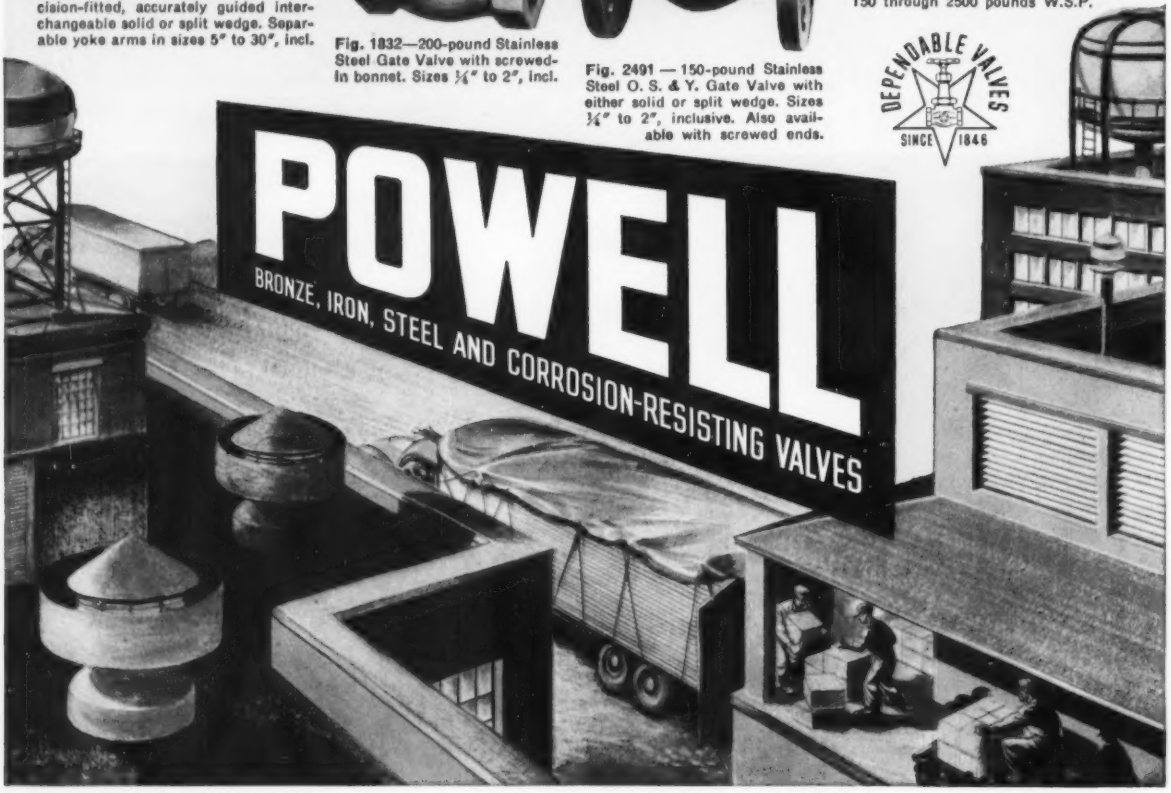


Fig. 2491 — 150-pound Stainless Steel O. S. & Y. Gate Valve with either solid or split wedge. Sizes ¼" to 2", inclusive. Also available with screwed ends.

Fig. 3061 S. S. — 300-pound Stainless Steel Swing Check Valve. Made from a heavy steel valve pattern, it conforms to A.S.A. and A.P.I. Steel Valve Standards. These valves are available for 150 through 2500 pounds W.S.P.

DEPENDABLE VALVES SINCE 1846



required for analyses made a broad extension of any waste-fiber-analysis program impracticable. Except for an occasional superficial series of tests, no analysis figures have been obtained for the guidance of operating heads.

The claim made that a waste-analysis program required a large expenditure of time, labor and money was justified with the use of older instruments for this purpose. New methods and new instruments have overcome this objection. **The time consumed and the operator skill required have both been reduced to the point where routine waste analysis will prove profitable to any mill. It is reasonable to expect that with new instruments waste analyses will become as routine as nep counts and percentage-noil tests.**

Excessive long-fiber loss in waste may be confined to individual machines or it may be general throughout the whole department. There are three logical steps required to eliminate or reduce this loss: find out where it occurs, locate the cause, apply the proper remedy. A simple change in speeds, settings, or adjustments may save many dollars in fiber loss.

Case History Shows Potential

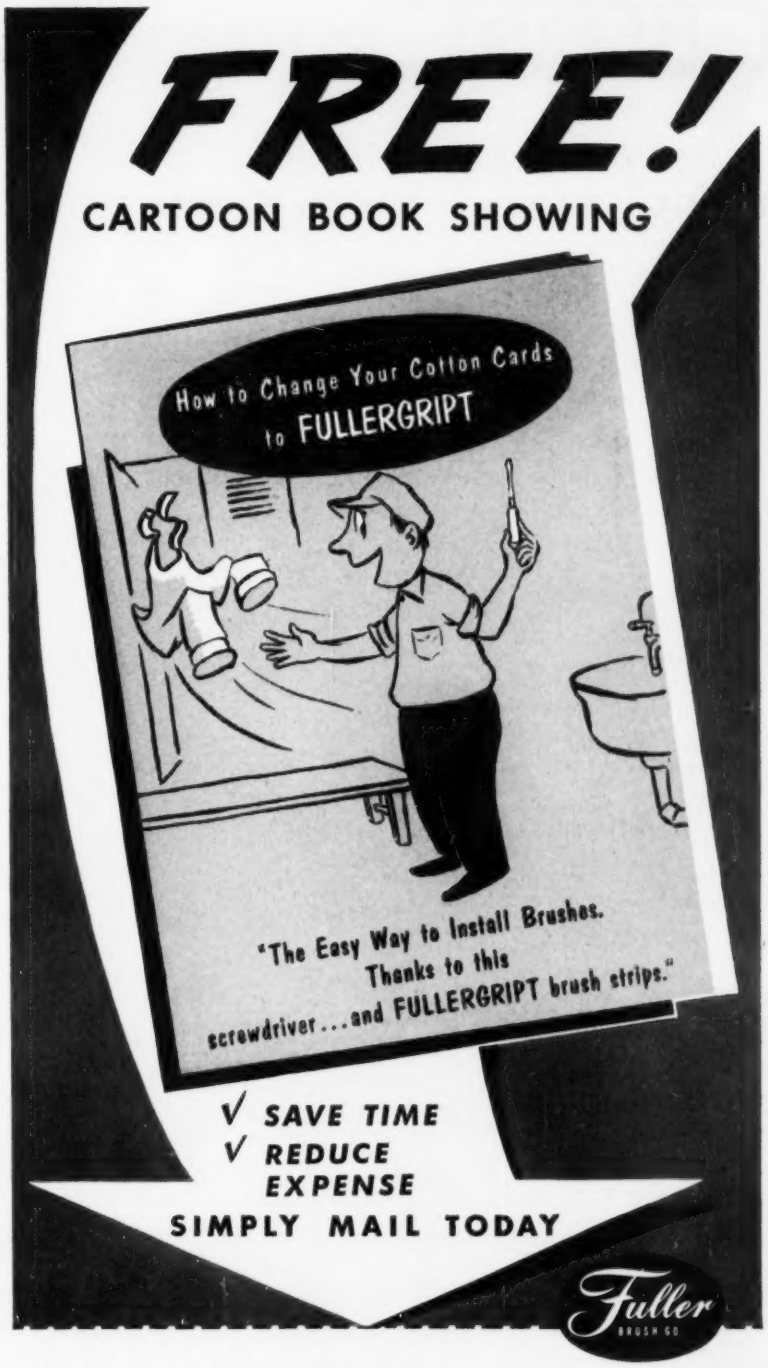
A case history of an actual application of waste analysis will show the savings possible. A cotton mill making tobacco cloth and medical gauze was carding 10 lbs. per hr. and taking out 3.15% of flat strips. Fiber-length analysis showed excessive spinnable fiber in the flat strips. Changes were made in plate settings and flat speeds. Flat strips were reduced to 1.95%. There were less long fibers in the strips, nep and trash count in the sliver was not increased, and the yarn-appearance standard was not lowered.

With a production of 800 lbs. per card per 80 hrs. on two-shift operation, the difference between the price of the cotton saved and the price received for the flat strips resulted in a saving of over $1.00 per week per card.

Cards Are Limited

The limitations of the cards in fiber-length selectivity must be recognized in making required changes as indicated by fiber-length analysis. On combed work, it is often advisable to take advantage of the comber fiber-length selectivity by reducing the waste on cards and increasing slightly the noils on the combers. This procedure may retain more long fibers in the card sliver and permit the removal of more short fibers on the comber if proper settings are made.

A plain-goods mill received a large


FREE!
CARTOON BOOK SHOWING
How to Change Your Cotton Cards to FULLERGRIPT
"The Easy Way to Install Brushes. Thanks to this screwdriver...and FULLERGRIPT brush strips."
✓ SAVE TIME
✓ REDUCE EXPENSE
SIMPLY MAIL TODAY
Fuller BRUSH CO

THE FULLER BRUSH CO., Industrial Div.
3594 Main Street
Hartford 2, Connecticut

Please send me without cost or obligation a copy of your FREE book, "HOW TO CHANGE YOUR COTTON CARDS TO FULLERGRIPT".

Name .....

Company ..... Title .....

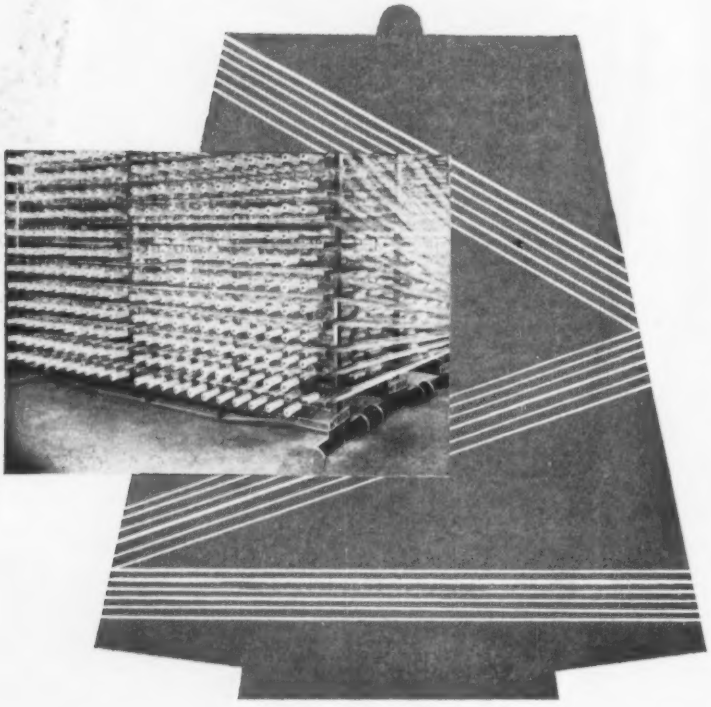
Street ..... City ..... State .....

For more information, write direct or use Reader Service post card.

Mc BRIDE

CREELS FOR EVERY PURPOSE

WARP BEAMS
FLANGES
ROLLS



WEAVING CREELS for rug, plush and other pile fabrics and for the manufacture of tire cord are all metal – all welded for strength plus rigidity.

Spindles, guide bars and other bright work are electroplated. Every installation engineered to individual requirements. For complete information and prices, write, wire or phone.

Mc BRIDE

EDWARD J. McBRIDE COMPANY, INC.
COTTMAN AVENUE & WISSINOMING STREET, PHILADELPHIA 35, PENNA.

government emergency order for mop yarns made from strips. This order necessitated the purchase of strips from other mills. Samples of the strips offered for sale were analyzed, and those strips showing the best fiber content were specified. This reduced waste in processing improved the running of the work and enabled the rigid strength specifications to be easily met.

Watch Breaks in Synthetics

A close check should be made for fiber breakage when the finer deniers of staple synthetics are run. Fiber breakage can occur from improper machine settings of speeds. Fiber arrays made of synthetic-staple stock before and after processing can be used to detect this breakage and indicate its location and cause.

Fiber-length analysis has been used successfully in confirming or correcting the classer's judgement on so-called wasty bales. These bales, when found to be of low mean length, are mixed in small proportions with bales of normal mean length. This mixing prevents any great loss in yarn strength due to short fibers. New types and new season crops can be analyzed to detect any change in length characteristics.

Lower mean length of cotton generally causes increased waste losses and decreased yarn strength. Certain varieties or types of cotton will often show increased mean fiber lengths compared with other cottons of the same classified length. Fiber analysis will show these improved length factors, and the selection and use of these bales will usually prove profitable to the mill in increased strength and reduced waste losses.

Nonwoven Fabrics

(*Continued from page* 103)

placed in the tanks and agitated by a high-speed stirrer to get a complete mix. The plastic bonds the color into the fabric so that the fabric has a brilliant, fast finish. The finished plastic solution is fed to the impregnator box by gravity feed through pipes.

The cards are run at a cylinder speed of 180 rpm. and a lickerin speed of 580 rpm. Avondale tried speeding up the cards, but it didn't get enough improvement in the product to warrant the change. The thread waste produces a neppy web, but neppiness does not affect the quality of the nonwoven fabric.

The nonwoven fabrics are given a variety of finishes: hot-calendered, cold-calendered, embossed, coated,

TEXTILE BANKING COMPANY

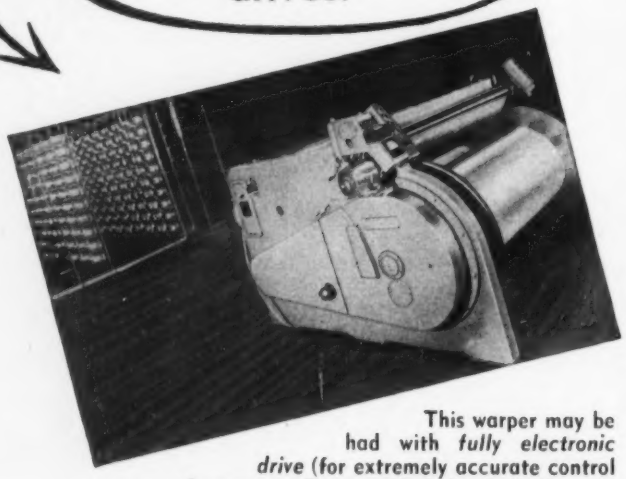
Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

High Speed
SIPP-EASTWOOD
WARPER Now
Available with choice of
drives.



This warper may be had with *fully electronic drive* (for extremely accurate control of yarn speed)—or with *Rider Roll Rheostat type drive.*

The High-Speed Sipp-Eastwood Warper with its choice of drives, sturdy, extra-heavy construction, smooth application of power, spindle-driven beam, and dependable V-belt drive makes for more efficient operation. Its speed is only governed by the yarn.

OUTSTANDING FEATURES:

1. *Spindle driven beam builds up to 36" in diameter, 54¼" wide, or wider.*
2. *Electrically operated hydraulic brakes, automatically adjusted to beam load.*
3. *Variable finger-tip speed control, effective to as close as 1%.*
4. *Hydraulic beam doffing.*
5. *AC current only required.*

Ask for all the facts about this efficient warper.

IT'S A SIPP EASTWOOD

SIPP-EASTWOOD CORPORATION
47 Keen Street Paterson, New Jersey

DOMESTIC AGENTS:

S. FRED TOLL
2116 W. Morehead Street
Charlotte 1, N. C.

J. S. FALLOW & CO.
New Bedford,
Mass.

J. S. FALLOW & CO.
4846 Sherbrooke St. West
Montreal, Canada

and printed. All finishing is done by the nonwoven-fabric unit of Avondale except embossing and coating, which are done outside the organization. The fabrics are slit or left as bulk rolls and are packaged to order in the packaging room.

Fabrics Are Strong

Plastavon is strong, pliant, porous, and absorbent. It does not disintegrate in water, and it withstands the effects of most common solvents. Plastavon towels, for example, can be washed in hot soapy water.

The all-card-web fabrics have high strength in the lengthwise direction and low strength in the crosswise direction, a characteristic that adds to their value for use as ribbons and tapes. The random-web fabrics have a more balanced strength and are used to make bags, wiping cloths, filter pads, and adhesive tapes. Other uses of Plastavon are for lobster bibs, napkins, dye-spindle covers, window cleaners, outdoor flagging tape, caps, and surgical masks.

Strength of the fabrics depends on the style. A strength of 66.5 lbs. lengthwise and 53.8 lbs. crosswise was measured by a Scott tester on a 1.90-sq.-yd.-per-lb., 36-in. random-web cotton fabric. A more standard fabric at Avondale is a 36-in., 5.16-sq.-yd.-per-lb., random-web, hot-calendered cotton fabric that breaks at 15.0 and 8.9 lbs. The rayon fabrics are made of three to five carded webs and have strengths up to 25 and 7 lbs.

The nonwoven fabrics are made by a manufacturing unit that operates as an independent unit in Avondale Mills on the same basis on which the different plants operate. This unit is headed by Cash Stanley and has its processing equipment in one of the cotton warehouses at Sylacauga.

Automatic Lubrication

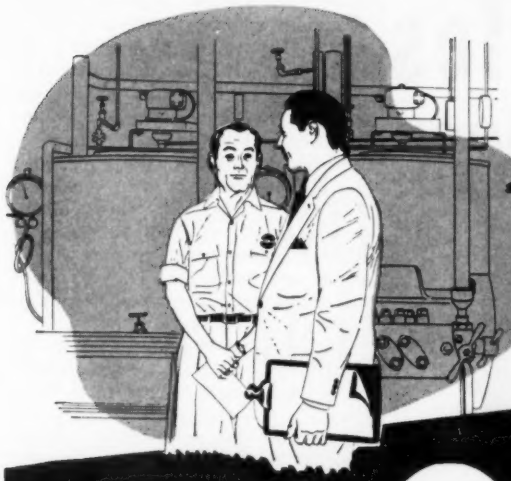
(*Continued from page 94*)

White and pastel goods are free from needle streaks. No mark appears across the instep in light-colored hosiery, where the instep needles remained idle during the heel and toe knitting.

Operating results at both mills already show longer needle life and less breakage of needles and sliders. Since all parts of the machine remain in a good state of lubrication during the week-end shutdown, Monday-morning startups give less trouble.

Better Knitting Is Obtained

A minimum of 40% of the lubricant formerly used is being saved. Better knitting uniformity is obtained



the Weaver's Friend

KEESTAR PRODUCTS

VICTOR Mill Starch

Always Uniform

...and Backed

by Keever Service

TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Vice President

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Corn, wheat and other grain products for industry since 1898

3-1

LOWELL Shuttles

DOGWOOD OR PERSIMMON
FIBRE-COVERED OR PLAIN

1. Shuttle for carpet loom 2. Shuttle for automatic wool or worsted loom 3. Shuttle for plain worsted loom 4. Shuttle for automatic cotton loom (equipped with brass threader) 5. Shuttle for automatic cotton loom (equipped with cast iron threader) 6. Shuttle for silk or rayon loom (equipped with Paterson tension and fibre covered on one side)

LOWELL SHUTTLES, widely recognized for their quality for more than half a century, include automatic and non-automatic types for all kinds of textile fibres and mills. Lowell Fibre Covered shuttles prevent roughing-up of yarns and the covering is applied to stay. The wood is thoroughly seasoned, carefully dried and finished to specifications. Shuttles can be furnished with automatic tension eyes, if desired.

WRITE FOR LOWELL SHUTTLE CIRCULAR

LOWELL SHUTTLE COMPANY
Established 1896 • Incorporated 1914
15 TANNER ST. LOWELL, MASS., U. S. A.
SALES REPRESENTATIVES
Hendrik Van Brederode, 311 Godwin Ave., Midland Park, N. J.; W. P. Russell, P. O. Box 778, Atlanta, Ga.; West Philadelphia Supply Co., Emerald and Somerset Sts., Philadelphia, Pa.; E. B. Smith, P. O. Box 3085, Greenville, S. C.

from the constant and even lubrication of the needle heads and latches. A certain amount of oil attaches itself to the yarn and improves the knitting qualities of the yarn. The constant spray tends to prevent the accumulation of lint around the moving parts of the knitting machine.

Griffin installed lubricating lines on the Komet machines to lubricate the selectors, top-cylinder slider butts, needle hooks and latches, bottom-cylinder slider butts, stripper mechanism, and sinker pot. The sinker pot was the most difficult point to lubricate.

Spalding installed one nozzle at the needles and one nozzle at the cylinder on the B-5 models. Other-model machines are being tested, and good results are being obtained. More than 45 machines are now equipped with the new lubricating system in this mill.

Shrinkproofing Device

(*Continued from page* 118)

The suggestion about knitting a narrow color stripe to determine where the stitches are pulled most is good.

The device was an outgrowth of some investigations that were made in our laboratory to determine the effect of yarn number, texture, calendering, and processing on shrinkage. The device was constructed to form a convenient means of testing some of the findings of this investigation.

Fine Yarns Cause Baggy Fabrics

Q. Why was yarn used for the experiment so fine that you can see the back fluted roll through two thicknesses of fabric? Baggy fabric is mainly caused by knitting with yarns too fine for the gauge.

A. We agree that baggy fabric is often caused by knitting with yarns too fine for the gauge of the machine. The Q.M. has for years been purchasing top-quality underwear, sweaters, mufflers, jungle shirts, and related items knit to gauge. In mobile laundering, these garments suffered shrinkage ranging from 10 to 20% in length and in most instances showed an increase in width that lead to bagginess.

In the case of underwear, some of this shrinkage was caused by pulling the fabric during the wet-processing operations. In the case of mufflers and jungle shirts, which are yarn dyed, the fabric received no additional wet processing after dyeing; and the potential shrinkage resulted from cloth-take-up tensioning, particularly severe in latch-needle knotting used for these fabrics.

This excessive shrinkage is now con-

91 OF THE TOP 100

Better than we knew

In reading a recent independently prepared list of the 100 leading textile manufacturing firms in America, we were struck by the number of familiar names.

A close cross-check with our own files confirmed a dawning realization . . . and handed us the most pleasant surprise we've experienced in years.

OF THE 100 TOP TEXTILE FIRMS IN THE NATION, 91 ARE USERS OF BAHNSON EQUIPMENT.

91 OF THE TOP 100

We believe this impressive preference is due in great measure to the completeness of our service . . . to the policy that every mill, every job, is an individual problem with an individual solution.

The majority of these installations are completely integrated systems . . . with humiducts or air washers, controls, grilles, dampers and most other components designed, fabricated and installed by our own textile air conditioning specialists.

Whether your mill is large or small — your air conditioning problem simple or unique — we have the engineers, the experience, the equipment for the proper solution.

91 OF THE TOP 100

Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

B. F. Goodrich Chemical Company

Textile Highlights

FOR JULY

Crease and wrinkle resistance

IMPROVED abrasion resistance is obtained through the use of Hycar latex (water dispersion of a butadiene-acrylonitrile copolymer) in conventional crease and wrinkle resistance compounds. Hycar latex is added as a partial replacement for the urea or melamine resin, and gives the finished fabric abrasion and wear properties equivalent to those of the unmodified gray goods.

Where crease and wrinkle resistance are desired along with appreciable change in "hand", Geon latices (water dispersions of vinyl resins) offer a wide range of possibilities to the textile industry. These latices are available in many forms, both plasticized and unplasticized. This variation in starting material plus unlimited possibilities in compounding offers the finishing plant a versatile raw material

There are many other ways in which B. F. Goodrich Chemical Company materials serve the textile industry. Hycar latices are widely used as pigment binders. Geon resins and latices are used as fiber binders, coatings and finishes. Good-rite sizes improve the processing of nylon and acrylic fibers. We will be glad to furnish additional information on these materials. Write Dept. TH-3, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Company

GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers • HARMON organic colors

trolled by preshrinking processes such as Tubetex, Redmanizing, and others for underwear, and by a tumbler drying procedure (called washing, in the trade) for sweaters and mufflers.

The device allows control of shrinkage at the knitting machine and makes further preshrinking unnecessary for some constructions and end uses.

Standard Shuttle Sizes

(*Continued from page* 127)

front and back box plates, back box-plate extensions, binders, picker-stick guides, and shuttle-check parts.

Try To Keep Your Looms On These Standard-Size Shuttles

Changes in either the length or the width of shuttles affect many other loom parts. It is Draper Corp.'s practice to change both lay ends when each standard length of shuttle (15⅛-in., 15¾-in., and 16½-in. over-all length) is changed.

An increase in the height of the shuttle walls requires a change of the front and back box plates, picker-stick guides, binders, and binder bushings.

Openings in shuttles are usually figured to be ⅛ in. greater than the diameter of the yarn package. A ⅛-in. increase in the package diameter, coupled with an increase in the length of the shuttle, calls for a complete change of the lay to obtain best results.

Makeshift Change-Over Installations Are Costly

Some mills get by with a change of only one lay end, as previously noted, or by moving the shuttle eye forward in the shuttle. But both of these practices result in makeshift jobs that are less costly in installation but prove to be a more-expensive operation over a period of years.

For example, the shuttle is weakened when the eye is moved nearer the end of the shuttle, and shuttle replacements are considerably increased.

In most cases, it is possible to move the parallel one shuttle size by using a collar to relocate the parallel on the rocker shaft. When this adjustment is made, a longer lug-strap connection must be used.

Battery changes usually made when shuttle sizes are increased include the hopper stand, bobbin disk, bobbin support, transferer, feed pawl, and transferer fork. Often, many of these changes have already been made through modernization from gradual

How Quill Winders are Tension Controlled at the Schneider Mill

Over 500 leading textile mills depend on Kidde Compensators to take the guesswork out of tension control. Kidde Compensators are precision instruments made of the most modern non-corrosive materials. They're a cinch to set, and automatically compensate for a change in the coefficient of friction as well as back drag. If you use quill winders on any kind of synthetic yarn, count on Kidde Compensators to (1) assure uniform tension throughout the quill; (2) control tension at bunch; (3) prevent sloughing off due to soft quills; (4) relieve yarn tension at *start* of bunch, thereby promoting longer quill life. Write today for full information.

Kidde

Walter Kidde & Company, Inc.

791 Main Street, Belleville 9, N. J.

For more information, write direct or use Reader Service post card.

In every detail the finest screw drivers that can be made. Handles are of tough black plastic, shock-proof and practically unbreakable. Comfortable *Octo-Grip* shaping prevents rolling and provides maximum turning power. Blades are of fine alloy steel with entire bar electrically heat treated under precision automatic control for greatest strength and toughness. Snap-on *Octo-Grip* screw drivers are available in a complete range of sizes and tips. Special purpose screw drivers for all industrial needs.

The complete Snap-on line includes 4,000 hand and bench tools for production and maintenance. Direct-to-industry service through factory branch warehouses in principal cities. Write for special industrial catalog and new 104-page general catalog.

SNAP-ON TOOLS CORPORATION

8100-G 28th Avenue, Kenosha, Wisconsin

*Snap-on is the trademark of Snap-on Tools Corporation.

design improvements of the loom through past years.

Frogs sometimes have to be changed when shuttle sizes are increased.

Most of the changes required when shuttle sizes are increased in E-model looms must also be made to alter K models.

Select Bobbin and Shuttle Sizes by This Standard

Generally, the proper bobbin length is determined by the mill's specific requirements, depending on the type and model of loom, but the following sizes give best results where mills conform to average standard practices:

1. Cotton and rayon weaves of 50s to 100s yarns require 7¾-in. bobbins.
2. Yarns of 20s to 50s weave best on 8-in. bobbins.
3. Yarns under 20s can be woven satisfactorily on 8¼-in. bobbins.

Looms being set for any change in filling-package and shuttle size should be set by the manufacturer's gauges for the particular loom condition.

Draper Corp. has designed over 15,000 different types of shuttles and currently sells 3,000 variations of shuttles. But standardization of the shuttles being run would result in fewer types of shuttles and would improve weaving conditions.

Inventory-Control System

(*Continued from page 95*)

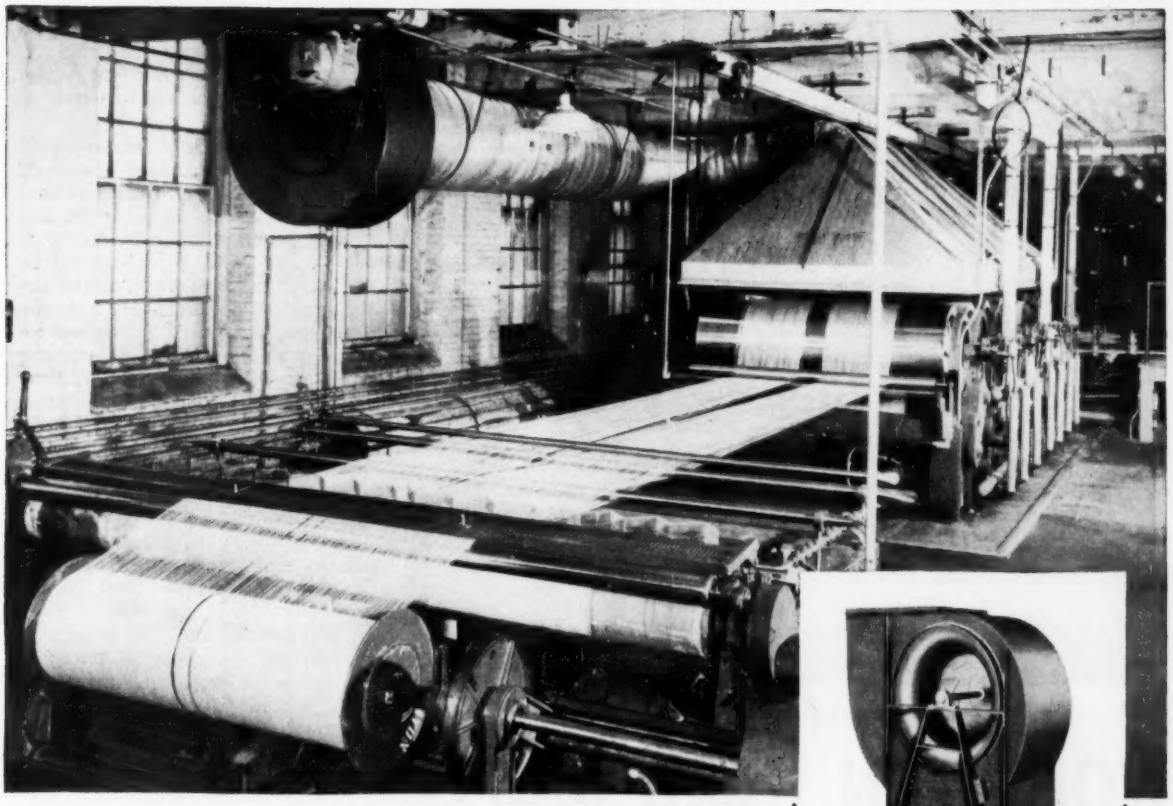
age and piece number are reported on a waybill by the cutting department; the production-control clerk reduces the yardage on the piece ticket by the amount reported on the waybill "Finished Warehouse to Cutting Department." That particular piece of cloth is proved to be in stock on the date of the cut by the details of the piece label shown on the waybill.

Check Tickets Against Labels

At convenient intervals, the earmarked piece tickets still in the stock files are listed; and these lists are checked against the physical stock. The corresponding pieces in stock are easy to find by the earmarked labels.

Only the piece tickets with an original earmark are checked for discrepancies, for discrepancies are most likely to be found in this part of the stock. The inventory staff lists the piece numbers for each style in stock, wherever located, and checks these listings against the office records.

All pieces of fabric that have cor-



Westinghouse slasher fans *put air to work* for Bigelow-Sanford

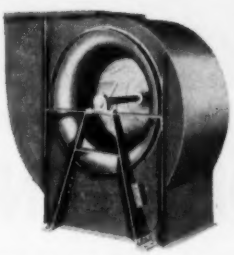
EXHAUSTING SLASHER

LIFTS PRODUCTION EFFICIENCY

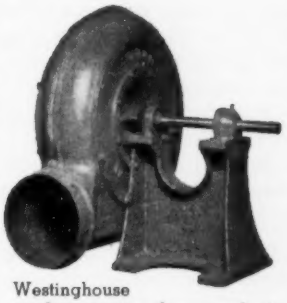
Efficient removal of vapor increases slasher production. That's why Bigelow-Sanford uses a Westinghouse Silentvane fan to get rid of vapor created in sizing and drying carpet backing yarn.

Westinghouse makes a complete line of air handling products for textile mills. For example, fans to control flock and lint on napping and shearing machines; fans for exhausting fumes from sanforizers and dye houses; apparatus for vapor absorption and process air conditioning.

To find the answer to *putting air to work* profitably, call your Westinghouse-Sturtevant office. Or, write Westinghouse Electric Corporation, Sturtevant Division, Hyde Park 36, Massachusetts.



This is the Silentvane fan shown above. It has high efficiency; uses a small motor.



Westinghouse wool-conveying fans used at Bigelow-Sanford are compact, trouble-free and easy to clean.

To get General Catalog 600, "Putting Air to Work", use this coupon or your company letterhead.

WESTINGHOUSE AIR HANDLING

YOU CAN BE SURE...IF IT'S Westinghouse

Westinghouse Electric Corporation
Sturtevant Division
Hyde Park, Boston 36, Massachusetts

Please send me a free copy of Catalog 600

Name_____

Company_____

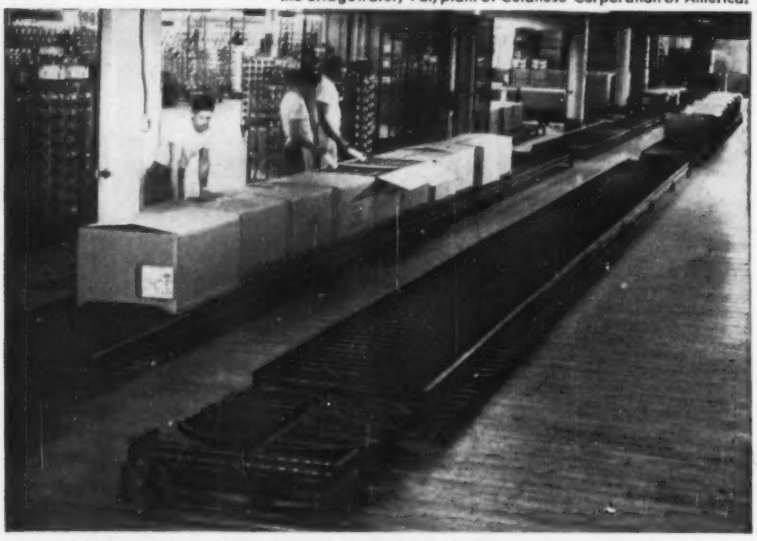
Street_____

City_____ State_____

J-80309

foot-friendly!

Worker-comfort, cleanliness, lasting economy and ease of maintenance, are dividends of this floor of Northern Hard Maple in the Bridgewater, Va., plant of Celanese Corporation of America.



There's a world of thrifty wear in

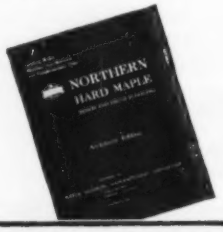
NORTHERN HARD MAPLE

• When the old-timers laid floors of cheerful, *resilient*, Northern Hard Maple in their mills, they did the whole textile industry a good turn. As these fine old floors stood up year after year, the brush and broom brought their lustre to satin-smoothness. No other floor or floor covering has ever been found to match the way Maple fights abrasion without splintering, offers no lodgement to dirt or lint, resists oil and grease. And maintenance of Maple is *so easy*. "There's always a new floor underneath."

As every inspector knows, *weariness* is the greatest cause of mistakes and slips. Uncomfortable floors make workers weary quickly. Maple floors are "foot-friendly"—they keep folks fit and alert longer. This pays very real profit, year-in, year-out.

For today's TOP buy in flooring, MFMA recommends either Second or Second-and-Better grades. These beautiful, absolutely sound, *economy* grades are now bundled 2 feet and longer as the stock will produce. They save money today, and in the years ahead.

See Sweet's
(Arch. 12K-MA)
•
Write for NEW TEXTBOOK ON FLOORING



MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 592, Pure Oil Bldg., 35 East Wacker Drive
CHICAGO 1, ILLINOIS

FLOOR WITH NORTHERN HARD MAPLE
BEECH AND BIRCH

responding tickets in the office records are considered inventoried. No attempt is made to prove the actual balance in stock of any one style as of any date.

If the piece tickets are earmarked and the labels changed every six months, the stock turns over twice a year. The piece tickets can be earmarked more often if necessary, of course, but twice a year should be enough if the production-control department is well-organized and efficient. No extra work is involved for the production-control department; this department goes right on filing and pulling tickets and transferring them from one pile to another.

However, the inventory department inventories fewer pieces. Generally, this system cuts out 75% of the work necessary to take an inventory. Many pieces listed by the inventory staff one day are shipped out of the plant the next day or the next week. When a piece is shipped, the fabric is listed on an invoice; and the invoice is accepted as proof that the piece of fabric was in stock on the invoice date. If the records-transfer system of the plant works, most of the physical stock will eventually prove itself out. The entire physical stock turns over in a certain period; and interdepartment transfer tickets, packing lists, invoices, etc. can be used to take the inventory.

To locate a few wrongly labeled or missing pieces, the records are checked where the discrepancies will likely be found instead of inventorying the hundreds of thousands of pieces in stock.

Missing Fabric Is Found

The most frequent discrepancy in this system is to have a piece ticket in the card file without a corresponding piece of fabric in the plant. In most cases, a piece of fabric will be found without a piece ticket, and a check will show that the wrong piece ticket was pulled when the piece of fabric was shipped.

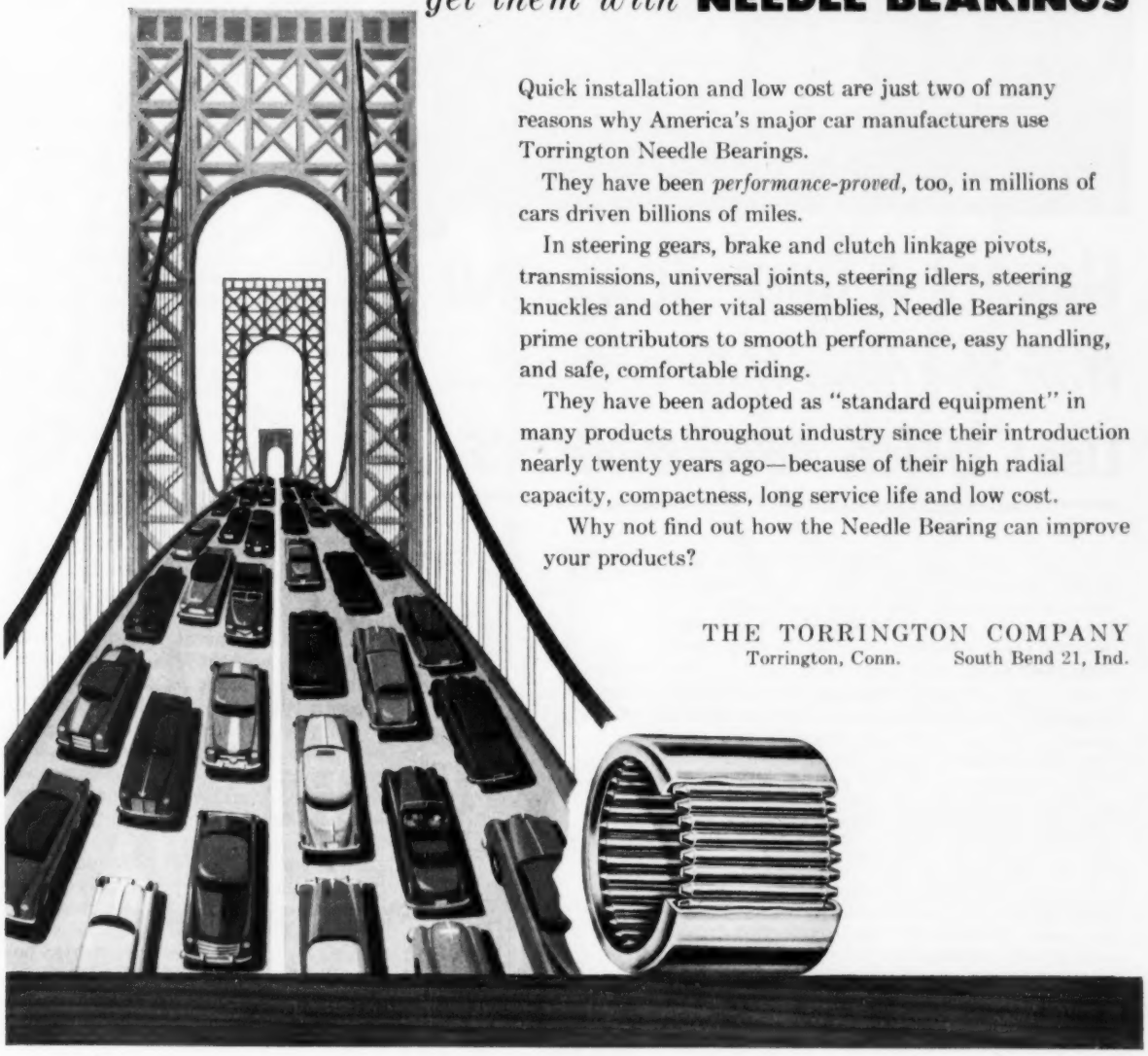
This error is not discovered when the fabric is shipped if the yardage is the same for both pieces of fabric. The error is corrected by checking off the dangling piece of fabric against the dangling piece ticket.

Most outstanding piece tickets can be checked off in this way, but it is unavoidable in any system that a few piece tickets cannot be explained. Suppose a piece of cloth is stolen; the ticket remains in the files, but who can say that it was stolen? However, a record is kept by the piece tickets, and the cost of fabric that disappears can be charged to a special account.

With this perpetual inventory sys-

Are Easy Assembly and Low Cost "Musts" for You?

Here's how leading automobile manufacturers get them with **NEEDLE BEARINGS**



Quick installation and low cost are just two of many reasons why America's major car manufacturers use Torrington Needle Bearings.

They have been *performance-proved*, too, in millions of cars driven billions of miles.

In steering gears, brake and clutch linkage pivots, transmissions, universal joints, steering idlers, steering knuckles and other vital assemblies, Needle Bearings are prime contributors to smooth performance, easy handling, and safe, comfortable riding.

They have been adopted as "standard equipment" in many products throughout industry since their introduction nearly twenty years ago—because of their high radial capacity, compactness, long service life and low cost.

Why not find out how the Needle Bearing can improve your products?

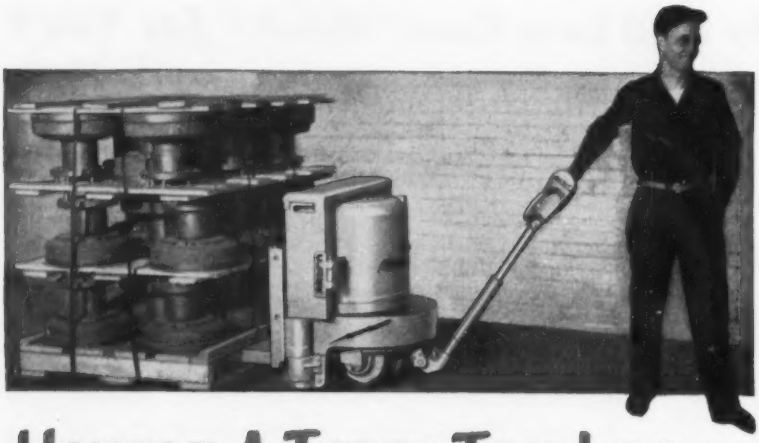
THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.

TORRINGTON NEEDLE BEARINGS

Needle • Spherical Roller • Tapered Roller • Cylindrical Roller • Ball • Needle Rollers

Trade Marks of 12 of the 18 passenger car manufacturers, all of whose cars enjoy the benefits of Needle Bearings.

STUDEBAKER CARS / TRUCKS · CHRYSLER · DODGE · Packard · DeSoto · WILLYS · Nash · KAISER · LINCOLN · Ford · MERCURY



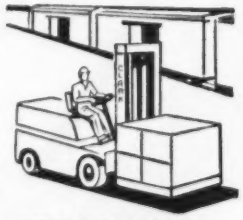
HANDLE A THREE-TON LOAD
With One Hand In Your Pocket...
Use CLARK *POWRWORKERS!*

CAN'T YOU JUST PICTURE THIS MAN trying to pull this load with an old-fashioned manual hand truck! It's a cinch he wouldn't have a smile on his face—there'd be sweat and strain, because those transmission housings weigh pretty near three tons!

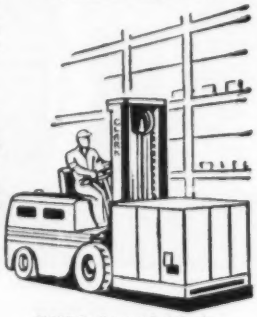
As a matter of fact, his boss is even happier. That POWRWORKER pallet truck has taken the muscle work out of the job, turned a tired worker into the smiling chap you see here. Furthermore, this employee is now doing twice the work he accomplished manually. No labor problem here! And the boss gets more effective use of his storage space, because the compact little POWRWORKER thrives on narrow aisles and low-load floors.

Not to mention the fact that the POWRWORKER is tailor-made for tight budgets. Big-truck benefits at small-truck cost — which means that nobody need deny himself the money-saving advantages of mechanized handling. Pound for pound, dollar for dollar, you can't beat the value in CLARK'S POWRWORKER Line.

Get the facts from your nearby CLARK Dealer (look under "Trucks Industrial", in the Yellow Pages of your phone book) or use the coupon below.

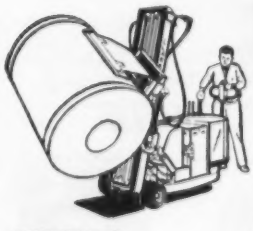


CLARK Electric Powered Fork Trucks; Capacities from 1000 to 7000 lb.



CLARK Gas Powered Fork Trucks: Capacities from 1000 to 15,000 lb.

1903 1953 CLARK EQUIPMENT



CLARK Attachments, 22 basic models

CLARK ELECTRIC, GAS, DIESEL, L.P. GAS FORK TRUCKS
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION · CLARK EQUIPMENT COMPANY · BATTLE CREEK 27, MICHIGAN

Please send: ☐ POWRWORKER literature ☐ Have representative call ☐ Material Handling News

Name_____

Firm Name_____

Address_____

City_____ Zone____ State_____

AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

tem, a company does not have to make a complete inventory at the end of the year. Only the tickets that are still earmarked have to be checked to bring the inventory up to date.

Streaky Tricot Fabric

(*Continued from page 109*)

but low humidities can also cause much trouble. Dry yarn can pick up static, and static conditions can cause severe complications. Low humidities can also cause the yarn to be lively, and lively yarn is the cause of many breaks.

High humidity at the point of knitting can cause the individual threads on the warp to bunch and stick together. When these threads hit the selvage points, they will pull and cause different stitch formations.

Clogged guide bars and needles will cause streaky fabric, as the stitch will not be pulled correctly and the stitch will not be pulled the same from one needle to another.

Knitting Elements Require Special Attention

An important factor in the cause of streaky fabric is the proper alignment of the needles throughout the needle bar. A needle out of line will cause the wale made on this needle to lie too close to the adjacent wale. Several needles in this condition over the width of the fabric will cause a poor appearance. Great attention should be given to needle alignment, and periodic reworking of the needle bars should be a part of the knitting program.

The presser bars of tricot machines should be checked periodically to see that they have not become notched. If insufficient press is given some needles, it will cause the stitch to be pulled from the needles much harder. This added pull tends to tighten the stitch and cause the wale to appear as a heavy thread in the fabric. Defective needle beards can also cause this condition.

Sticking brakes or uneven let-off can cause chatter marks or beam shades, since the tensions throughout the needle bar may change from one point to another. While this condition cannot cause streaky fabric, it does detract from the face appearance of the goods. Beam shades appear as light and dark horizontal panels and generally run throughout the piece.

Another source of streaky fabric is the actual construction of the stitch and involves both proper and even let-off and proportionate or accurate runners. Whenever disproportionate

Brilliant decoration in suitings that won't fade away. Superb multi-tone shirtings that take to water like fish. Pajamas with eye-opening color and shut-eye softness.

None of this is visionary. All of it—and more—is profitable fact.

For Celaperm*, Celanese' color-sealed acetate yarn, means better vision in men's wear for every far-sighted mill, maker and merchant.

Celaperm's sparkling color can spark new styling in every end-use—from plains to iridescent solids, from striking surahs to the most varied and vivid stripes, checks, plaids. And *versatile* Celaperm combines with black and white yarns or cross-dyes in tri-color effects with equal facility. It blends its talents with *any* fiber, new or old.

Easy to work with, easier to sell, this exciting new yarn brings you every beautiful advantage of acetate—*plus the promotable promise of color-for-keeps. New* color that resists the sun, washes and dry cleans beautifully—*fashion* colors that perspiration won't mar, that don't gas fade.

Celanese has developed styling ideas to show you the wonderful possibilities of Celaperm . . . to help you create these new fabrics of today and tomorrow.

Have you seen what's being done with Celaperm? What Celaperm can do for you? Write Celanese Corporation of America, Dept. 14A, New York 16, N. Y.

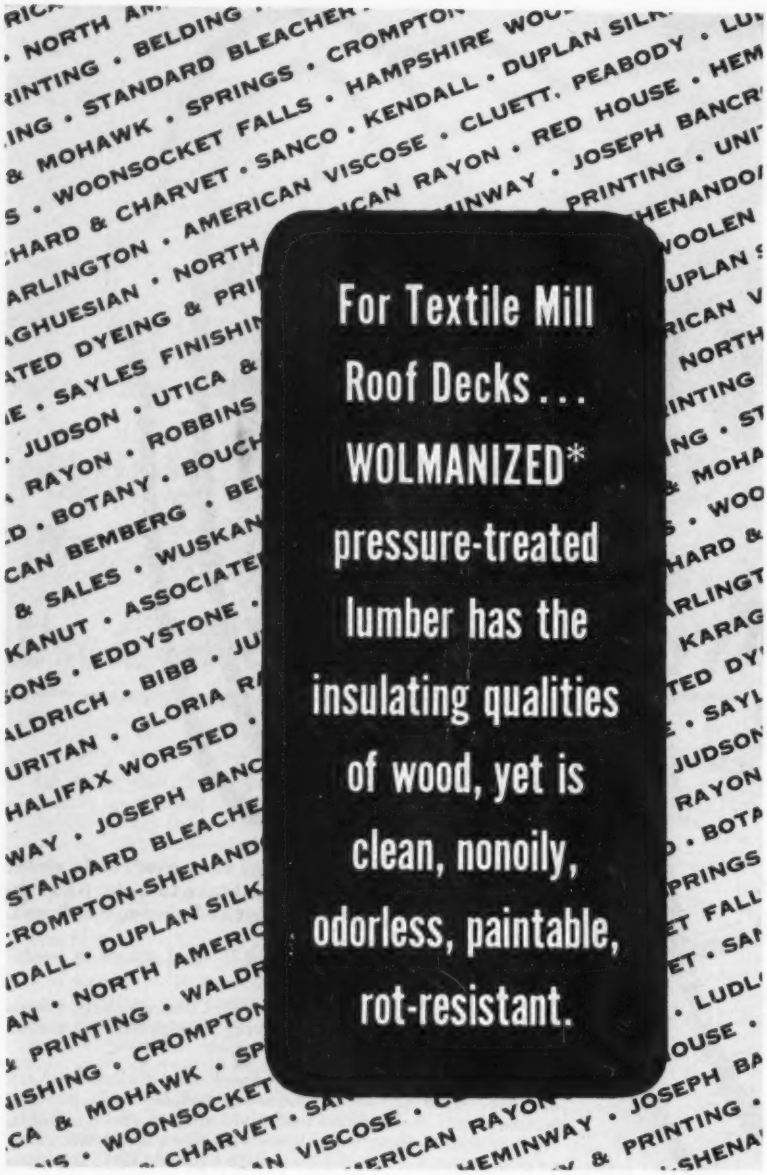
*Reg. U. S. Pat. Off.

CELAPERM*

THE Celanese*

ACETATE YARN WITH THE "SEALED-IN" COLOR

 For more information, write direct or use Reader Service post card.


For Textile Mill Roof Decks... WOLMANIZED* pressure-treated lumber has the insulating qualities of wood, yet is clean, nonoily, odorless, paintable, rot-resistant.

American Lumber & Treating Company

General Office: 1601 McCormick Bldg. Chicago 4, Ill.

Branch Offices: Baltimore • Boston • Jacksonville, Fla. • Little Rock, Ark. Los Angeles • New York • Portland, Ore. • San Francisco • Seattle

*Reg. U.S. Pat. Off.

Wolmanized

*Reg. U.S. Pat. Off.

PRESSURE TREATED

Lumber

runners are used, the stitches will tend to become cocked to one side on one course and to the other side on another course. Individual wales can become cocked to different degrees after tension is applied during framing.

Poor Finishing Can Result In Streaky Fabric

Scouring techniques can determine to some measure the streakiness of the goods. In the case of yarns that are oiled only, finished fabric can be streaky if all the oil is not scoured out. Some dyes will cause fabric to appear streaky whenever barré effects are encountered.

If most of the tricot fabric on the market today could be free from streaks, the industry would be given a boost and make tricot fabrics more competitive in the fields where they are adaptable.

Winding Nylon

(*Continued from page* 135)

lay and thereby may affect running qualities in subsequent operations. Improper placing of bobbins on bobbin trays can also cause broken filaments.

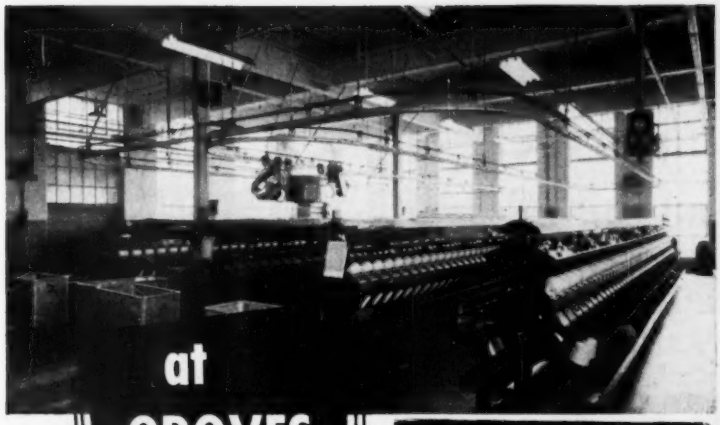
Soiling of the yarn during processing by machines that are dirty, greasy, or oily, or by the operator's touching of the yarn will impair the quality of the yarn. Grease, oil, dirt, soil, and perspiration marks picked up by the yarn are very difficult to remove in scouring.

The balloon must be controlled; the pigtail that constricts the balloon must be centered above the supply bobbin and positioned to the right height. Dragging or hugging of the yarn off the supply indicates a pigtail positioned too close to the supply, while a balloon that is too wide indicates that the pigtail is positioned too far above the supply.

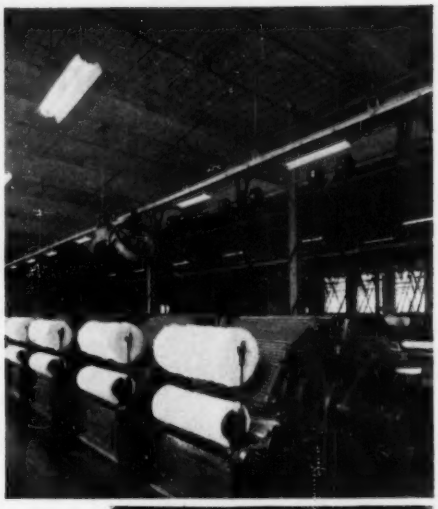
Net Yarn Weight—The net yarn weight of the winder bobbins will vary, depending on the denier of the yarn and the uptwister spacing. For fine-denier nylon, use 8- to 12-oz. bobbins. For 100-den. nylon and above, up to 16-oz. bobbins are satisfactory.

In processing yarn through the various throwing operations, it is desirable to work for an even transfer of yarn from one bobbin to another to eliminate pieced bobbins and the additional knots caused by tying in.

Unbalanced bobbins vibrate excessively on the twister spindle and may cause spindle overheating, nonuniform tensions, nonuniform spindle



Cleaning over winders.



Ceiling cleaning in card room.

at GROVES THREAD it's quality control bale to sale...

A clean mill produces quality thread. That's why Groves Thread Company, Gastonia, N. C., uses American MonoRail Automatic Cleaning throughout entire operation.

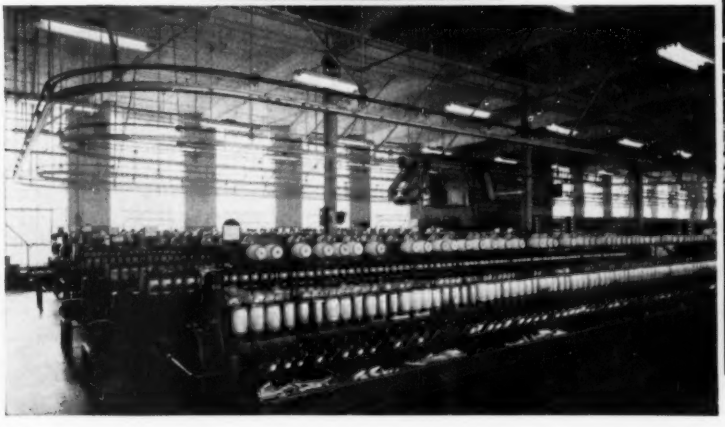
An American MonoRail engineer will gladly explain all the advantages of Automatic Cleaning at your convenience. Write today for an appointment.

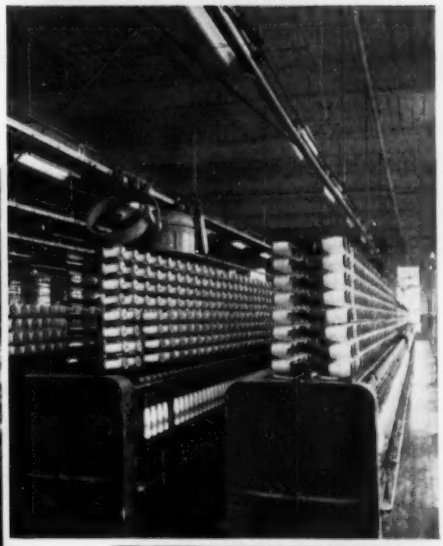
Cleaning over spinning.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE • CLEVELAND 7, OHIO

Cleaning over spoolers.





Cleaning over twisters.

IMPROVEMENT IN FABRIC AT A LOWER COST OF MANUFACTURE

SAVE ON WASTE

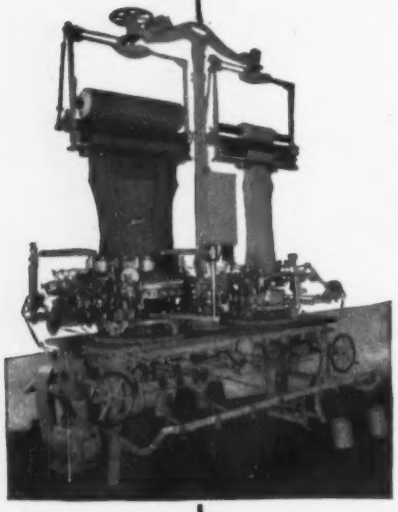
SAVE ON LABOR

SAVE ON NEEDLES

many mills call it the "perfect cloth machine"!

ACTUAL MACHINE COMPARISONS

have opened the eyes of many knitting mill owners to the virtues of the new Tompkins D-2. New stop motion with furnishing wheels control each end of yarn and prevent imperfect feeding of yarn to needles — IMPERFECTIONS ARE CAUGHT BEFORE THEY GET INTO THE CLOTH! Yarn tension always remains constant and steady for delivery from furnishing wheels—for a reduction of at least 50% in needle replacement expense!



ONE OPERATOR running Tompkins D-2 Double Head Spring Needle Machines (pictured) WILL TURN OUT TWICE AS MUCH FABRIC as one operator running Multiple Feed Latch Needle Machines with same number of bobbins —plus PERFECT CLOTH ALL THE WAY!

The Tompkins D-2 Double Head Spring Needle Knitting Machine is equipped with individual motor and drive for each head. Optional equipment available includes a three-color (3-thread) striper as well as a fool-proof pattern attachment for putting in or taking out a pattern.

Write, phone or wire for data sheet showing actual machine comparisons . . .

see the TOMPKINS D-2 in production on whatever yarn or fabric you wish . . .

SEE FOR YOURSELF!

ESTABLISHED 1846

TOMPKINS BROS. CO.

629 Oneida St. SYRACUSE 4, N. Y.

speeds, slack twist, and excessive machine maintenance. There is an increasing trend to dynamic balancing of all twister bobbins, and this development should allow higher speeds and more-uniform spindle performance.

Winding Speeds—Winding speeds for nylon vary with the supply package. However, from pirns, speeds range from 350 to 500 yds. per min.

In winding from skeins that have been preshrunk, 100 to 150 yds. per min. is average, and in winding from cones or cylinders that have been preshrunk, 75 to 150 yds. per min. is the average speed.

The wound nylon is now ready for further processing, and the next operation depends on the end use of the yarn.

Suggestion System

(*Continued from page 89*)

decisions. Award checks to the winners follow the letters by a few days.

Accepted Ideas Are Followed Up

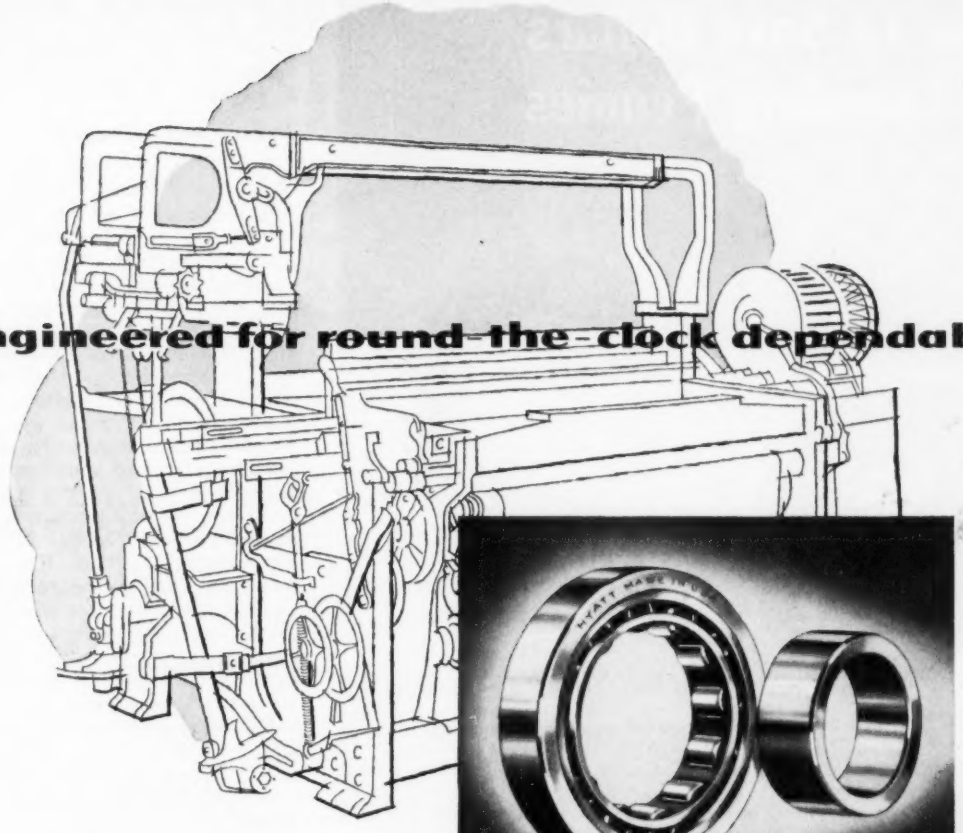
A copy of each suggestion adopted is sent back to the superintendent; attached is a slip that is returned after the suggestion is put into effect. In addition, every superintendent and all members of top management are sent a list of all award-winning suggestions for the month; so each superintendent can take advantage of ideas originating from other mills.

Top management also gets a complete analysis of the meeting that shows the number of suggestions received, the number being held for more information, the number of awards, total amount awarded, etc. Everyone is kept up to date on the progress of the suggestion system.

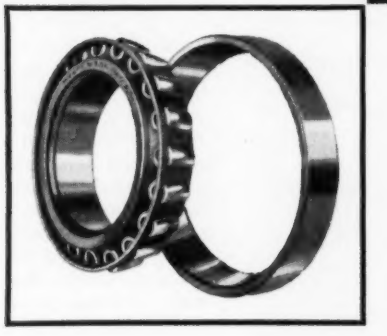
A follow-up makes sure each winning suggestion is put into effect as soon as possible. Periodic reports are made to management on the status of each suggestion adopted. We have found that our employees are just as much interested in seeing their ideas put into effect as they are in receiving awards.

We added one feature about nine months after the original plan was started: each superintendent now gets an award equal to 10% of all awards made for suggestions from his mill. These awards are generally made every three months.

There were several good reasons for adding this feature. First, we thought the superintendents deserved remuneration for investigating suggestions and putting them into effect; and second, we thought the superin-



Engineered for round-the-clock dependability!



Quitting time . . . workers stream out of the mill and a new shift takes over . . . but the machines never stop! That's why so many manufacturers of textile equipment "build in" Hyatt Roller Bearings. They know that Hyatt-equipped looms and preparatory and finishing machines will "stand up" under constant operation—because Hyatt bearings are performance-proved to last longer at peak efficiency! Down time is minimized, and equipment can be operated at higher speeds—meaning increased production and lower costs. And, because there's no leakage of grease or oil from Hyatt bearings, Hyatt-equipped machines produce cleaner yarn and cloth. For conclusive data about Hyatt bearing performance, write to Hyatt Bearings Division, General Motors Corp., Harrison, N. J.

HYATT ROLLER BEARINGS

How To Save Dollars By Spending Pennies

EPI Bobbin

Every EPI Bobbin is dynamically balanced because experience has shown that materials and methods used in mass production can never be assumed to be perfect. Your own mill methods prove this.

Dynamic testing and balancing costs us—and you—only a few cents per bobbin. But mill records show that sooner or later unbalanced plastic bobbins can cause serious troubles and that *much of the damage is done before the defect becomes noticeable.* Poor wind, uneven packages, and expensive spindle and machine wear cost you many dollars . . . to say nothing about having to discard the bobbin before its time.

You'll save dollars when you specify EPI Bobbins for Nylon and other synthetic fibres.

Stronger, too . . .

ENGINEERED *Plastics*

INCORPORATED

Gibsonville, North Carolina

tendents should be rewarded for helping employees to write up their ideas. And, of course, it was an added incentive for the superintendents to maintain their interest in the suggestion system.

Awards Are Adequate

Another factor for success is an adequate system of awards. We try to base our awards on how much the suggested improvement will save in a year. If the savings will be tangible, we award the suggestor 10% of the first year's estimated savings. Many awards, however, must be calculated on an intangible basis. In these cases, the members of the suggestion committee decide among themselves how much the suggestion is worth; the award is made accordingly. Suggestions for safety and housekeeping fall in this category.

A third type of suggestion that gets an award is what we call a "lack-of-supervision" suggestion. If a suggestion points out something a particular plant is not doing, but which every plant is supposed to do, we make an award to the suggestor for calling the matter to our attention. These awards are small, usually around $5.

We believe our system of awards is fair and that our employees share this belief, for we have never received a complaint about the amount of an award.

It is easy to give awards, but the problem comes when a suggestion has to be turned down. If rejection is not handled diplomatically, you have an embittered employee on your hands. We estimate that about 25% of all suggestions have won awards and that 75% have been turned down.

When we turn a suggestion down, we write a personal letter to the suggestor explaining exactly why his suggestion could not be adopted. Our letters follow the same general outline, but we do not use a form letter for this purpose; we believe a personal letter is worth the extra time and work. We also assure the suggestor in this letter that if he has any questions about why the suggestion could not be adopted or if he does not feel the decision was just, we are happy to discuss it with him personally. Several of our decisions have been questioned, but we have always been able to explain our reasons to the satisfaction of the employee.

Awards Are Publicized

Publicity is necessary to the success of a suggestion system because a suggestion system has to be sold and resold to keep it active. It should not be pounded into the employees continually, but it should be brought to

For more information, write direct or use Reader Service post card.

SUPREME'S *two-part pattern for your* KNITTING PROFIT

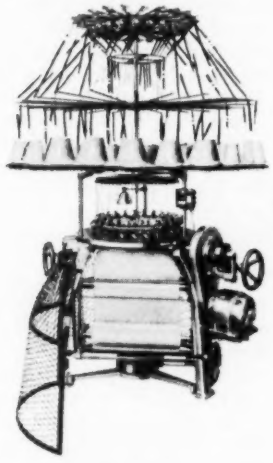
Supreme's pattern for your profit is two-fold . . . providing better knitting performance plus helpful service.

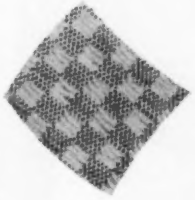
1. By combining multi-fabric versatility with super-speed production and low maintenance, Supreme machines assure you of maximum profit operation.
2. In addition, with every Supreme, you can get individual help on machine set-up, operation and maintenance, patterning, mill planning, etc.

Write for further information on any of the Supreme machines shown on this page.

PROFIT-KNITTING MACHINERY

For Example — Supreme's LRP



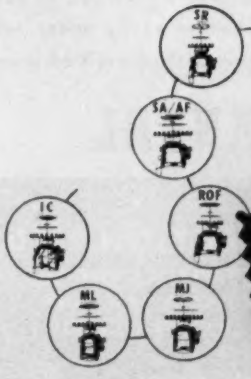


Supreme's new wonder-machine model LRP vent-knits open-stitch areas in a plain jersey background—produces air-cooled, run-resistant and elastic fabrics in a variety of beautiful patterns. This amazing machine profit-knits at rates up to 28 yards per hour—rayon, cotton or other yarn combinations may be used—perfect for summer and underwear fabrics.

HELPFUL SERVICE

Supreme follows through sales with service. Whenever required, Supreme's technicians provide individual assistance to the knitter to help him get maximum successful results from his Supreme machines. Pattern planning and analysis, engineering and maintenance information, in-the-mill instruction for knitter mechanics, mill-planning guidance are regular features of Supreme's service.

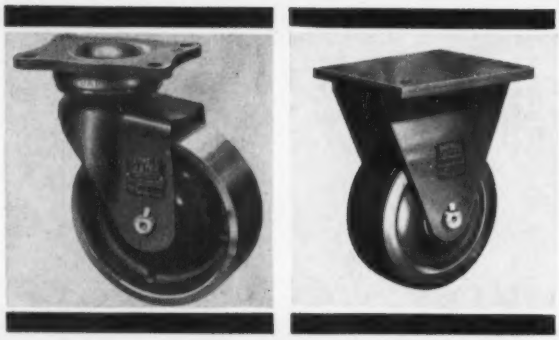
Here's a Free Sample of Supreme's Policy of Service —SUPREME'S NEW FABRIC and MACHINE SELECTOR— Slide rule chart identifies fabrics produced on each Supreme model. Includes actual fabric swatches. Gives diameter, feeds, needles per inch and production rates. Write for your free copy.



SUPREME
KNITTING MACHINE CO., INC.
94-02 104th STREET, OZONE PARK 16, N. Y.
Southern Representative and Showroom:
The Malluck Co., 711 S. Tryon St., Charlotte, N. C.

SK-169

IF YOU WANT HEAVY-DUTY CASTERS



THAT WILL SAVE YOU MONEY, THEN--

Specify

DARNELL

Always

SWIVEL and ROLL

Here is an all 'round industrial swivel caster, with matching stationary companion, that has proved highly popular in many hard usage applications. With treads adaptable to all types of floors, and all wearing parts carburized and hardened, these casters will give a long life of satisfactory service, swivelling and rolling easily under extra heavy loads. Thousands of other models described in—

FREE MANUAL

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

their attention regularly. Our publicity program consists of a newssheet, the *Suggestion System News*, publicity in the local newspaper, and an occasional distribution of suggestion sheets with a stimulating message printed on the back.

The newssheet is published after every suggestion committee meeting, usually once a month. We list the award winners for the month and the amount of their awards. We feel that a person gets satisfaction from seeing his own name in print, and we usually put this list on the front page. In addition, two or three feature stories play up some of the award winners. Features don't have to be big award winners; in fact, we try to encourage the small winners with these features. Also, we emphasize an area for the employees to work on in their suggestions—safety, housekeeping, quality, waste, etc.

These newssheets are given to the superintendent of each mill with instructions to have them distributed personally to each employee; if they are merely left in a rack to be picked up by the employee, many will not get a copy.

Once a year we get out a special anniversary edition of the *Suggestion System News*. This newssheet covers the year as a report to the employees on the progress of the suggestion system. Many pictures are used in this special edition, and a complete list of the year's winners is published. Our first year's special edition was a four-page newspaper printed on good-quality paper instead of newsprint, and the second year's edition required eight pages. We received compliments on these newssheets and plan to continue the practice of putting them out on each anniversary of the suggestion system.

The local newspaper gives us publicity also, especially in the case of large awards. A picture of the award winner, usually receiving his award check from his superintendent, is run along with a story. The paper also gets a copy of our monthly newssheet, and it runs a story on the monthly winners.

Another publicity medium we have used is the suggestion rider, which is a regular suggestion blank with a slogan, cartoon, or idea printed on the reverse side. The employee can turn the blank over, write down his idea, and drop it in the suggestion box. We have an upturn in suggestions when this rider is used.

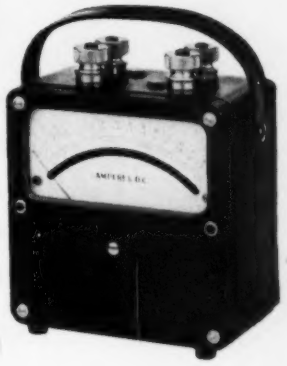
These points have kept our system as active and thriving today as it was when it was new. Conditions change, however, and any system must be kept flexible enough to allow for changes.

For more information, write direct or use Reader Service post card.

SPECIALIZED *Instruments*

for TEXTILE PLANT PRODUCTION and MAINTENANCE

These and other WESTON instruments are especially designed to make light work of the regular maintenance routine, and keep equipment functioning at peak efficiency. Order through your local WESTON representative or write . . . WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, N. J.



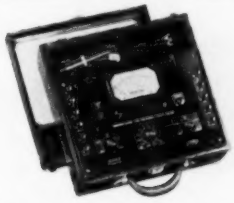
Model 932

LOOM MOTOR AMMETER— has special damping to dampen out heavy surges when checking loom motors. Scale calibrated 1/2/5 amperes. Models also available for all a-c and d-c testing and plant maintenance needs.

Light Meters—compact Model 703 illustrated widely used for quick measurements in mills and offices—measures all types of lighting direct. Also Model 614 with wide range of light values, and range-changing switch.

Pocket-Size Testers—compact, low cost test instruments available as Ohmmeters — Insulation Testers — Volt-Ohmmeters — and Volt-Ohm-Milliammeters which have well selected group of ranges to cover most electrical servicing needs.

Panel and Switchboard Instruments—a complete line of instruments in all types, sizes and ranges required for switchboard and panel needs . . . including d-c, a-c power frequencies and radio frequency, rectifier types and DB meters.



Industrial Circuit Tester—Model 785—a multi-range, multi-purpose, ultra-sensitive analyzer, for laboratory and industrial checking of electrical and electronic circuits. Has 28 practical scale ranges; measures d-c and a-c voltage, d-c and a-c current, and resistance. Accessories available to extend ranges. Compact and portable; furnished in either oak or steel case.

Clamp Volt Ammeters—(Model 633, Type VA-1) for convenient and rapid measurement of a-c voltage and current without breaking the circuit. Jaws take insulated or non-insulated conductors up to 2" diameter. Safe, rugged, versatile. Also available as a-c clamp ammeter, without voltage ranges.

WESTON All-Metal Thermometers—widely preferred because they maintain their high accuracy despite rugged plant service. Have large, readable scales, from 3½ to 12" long, stem lengths from 2½ to 72". All required ranges from low as −100°F to high as +1000°F.

WESTON *Instruments*

STEEL

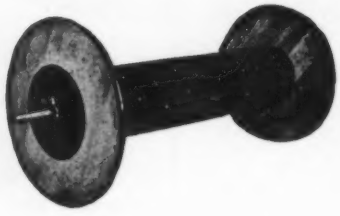
Every Kind

Some steel products are in short supply but over-all stocks are still large, diversified

Plates, Structurals, Bars, Sheets, Tubes, etc. . . . Carbon, Alloy and Stainless Steels . . . .

RYERSON

Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco, Seattle, Spokane.



SHELL ROLLS
BLEACHING ROLLS
CLOTH ROLLS
WHIP ROLLS
HIGH SPEED WARPER BEAMS

LOOM BEAMS
TEMPLE ROLLS
WOOD TOP ROLLS
TOP WORKMANSHIP
TOP QUALITY
TOP DELIVERY

WILLIAM McCASKIE, INC.

Wooden Textile Specialties

FORGE ROAD WESTPORT, MASS

Textile Equipment News

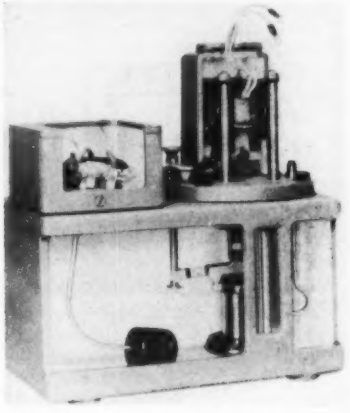
(Continued from page 156)

Gasoline Truck Has Electric Transmission

THE DYNAMOTIVE, a gas-powered industrial truck with electric transmission that was introduced at the recent Materials-Handling Exposition in Philadelphia by Automatic Transportation Co., 149 W. 87th St., Chicago, Ill., features an electric infinite-step transmission that eliminates the need for torque converters, clutch, overdrive mechanisms, and gear shifting.

Circle T-25 on Reader-Service Card

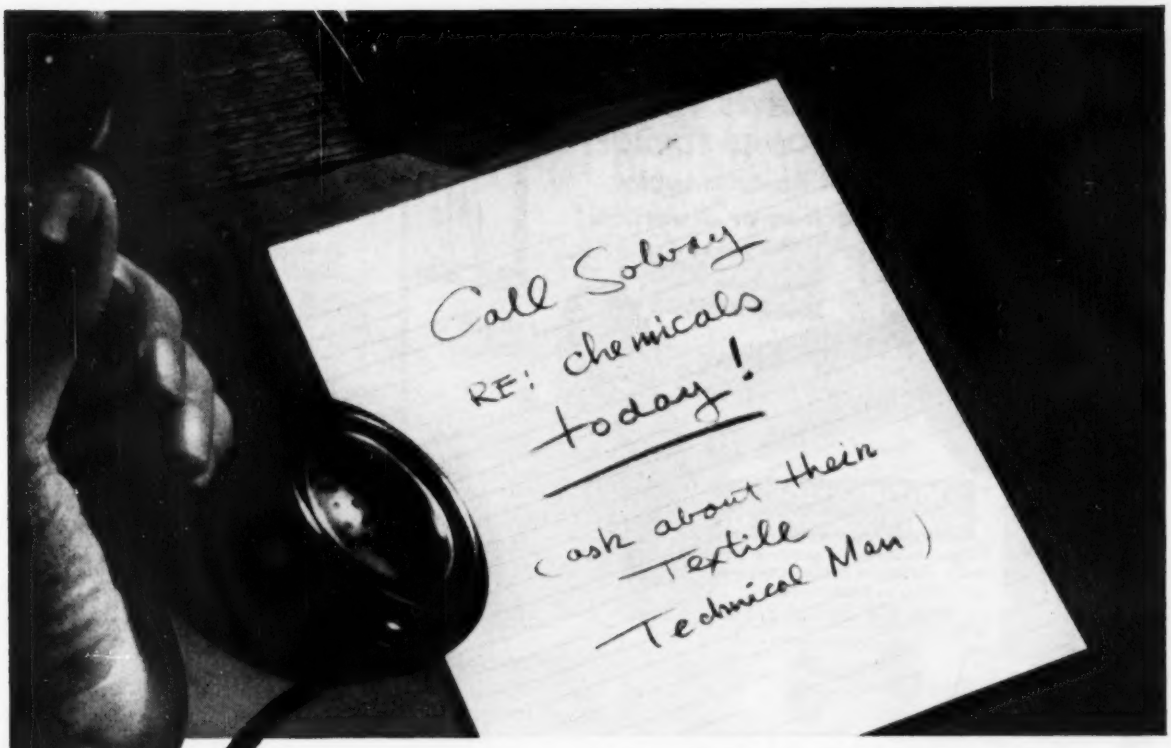
Solenoid-Operated Lubricator Is Adaptable To Controls



WIDE CONTROL FLEXIBILITY is part and parcel of the solenoid operation of this new lubricator. No connection to any moving element of a machine is required.

A new solenoid-operated lubricator, Type E, that can be applied to almost every type of machine and mounted in any location has been developed by Bijur Lubricating Corp., Passaic St., Rochelle Park, N. J. No connection to a moving element of the machine is required.

Flexibility of control is made possible by the use of switches tripped by rotary or reciprocating motion, existing



For these Textile Processing Chemicals

···Contact SOLVAY First!

REG. U. S. PAT. OFF.

When you buy quality textile chemicals, call Solvay first . . . for fast efficient service . . . and for assistance from Solvay's *exclusive textile* Technical Service. Their skilled technicians will be glad to offer you advice and suggestions on the proper and economical use of these textile chemicals. You'll find this help very useful . . . and Solvay's Technical Service costs you nothing.

And remember, Solvay's conveniently located plants and more than 200 local stock points provide you with fast delivery service as you need it.

Yes, for these textile chemicals . . . contact *Solvay first!*

SOLVAY PROCESS DIVISION

Allied Chemical & Dye Corporation
61 Broadway, New York 6, N. Y.

BRANCH SALES OFFICES:

Boston · Charlotte · Chicago · Cincinnati · Cleveland
Detroit · Houston · New Orleans · New York · Philadelphia
Pittsburgh · St. Louis · Syracuse

SODA ASH

CAUSTIC SODA

LIQUID CHLORINE

SODIUM NITRITE

POTASSIUM CARBONATE
(Calcined and Hydrated)

SOLVAY

Soda Ash • Caustic Soda • Potassium Carbonate • Calcium Chloride • Chlorine • Caustic Potash • Cleaning Compounds • Ammonium Bicarbonate
Sodium Nitrite • Sodium Bicarbonate • Snowflake® Crystals • Para-dichlorobenzene • Ortho-dichlorobenzene • Monochlorobenzene • Ammonium Chloride

RUGGED in design ... LIGHT in weight!

MILTON GIVES YOU TRUE DIMENSIONAL STABILITY without objectionable deflection or distortion!

it takes GOOD BEAMS to make good warps!

PROVEN IN SERVICE

warping unprecedented yardages of monofilament; fine denier, low turn nylon; and rubber yarns

WITHSTAND EXCESSIVE PRESSURES

MILTON NYLON & RUBBER TRICOT BEAM

Forged, heat-treated aluminum alloy heads and barrels permanently joined with continuous heliarc welds.

THERE'S A MILTON BEAM FOR EVERY APPLICATION . . .

permanent mold TRICOT BEAMS

SECTION BEAMS

Write for Bulletin 49-A for complete information

MILTON MACHINE WORKS, Inc.
DESIGNERS — ENGINEERS — MANUFACTURERS
MILTON, PENNA.

FOR almost a century Cole elevated tanks have provided a dependable water supply for mills and communities. Cole quality is assured by careful, experienced designing and watchful supervision from blueprints to finished tank. Send us your inquiries for tanks from 5,000 to 2,000,000 gallons—stating capacity, height to bottom, and location. *Write for latest Cole catalog—"Tank Talk."*

98 YEARS OF EXPERIENCE IN BUILDING TANKS

Established 1854

R. D. COLE MFG. CO.
NEWNAN, GEORGIA

ELEVATED TANKS • VESSELS • CYLINDERS
TOWERS • BINS • STANDPIPES

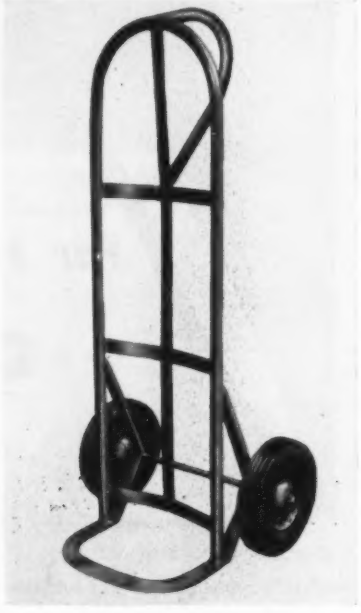
control circuits, electric timer controls, or push buttons.

The new lubricator can be used on standard textile machinery, machine tools, metal-working machinery, and packaging machinery. It delivers from 0.8 cc. (24 drops) to 0.2 cc. (6 drops) of oil per stroke. The maximum frequency of operation recommended is four strokes per minute. The solenoid is rated at 4 amp., 110 v., a.c. A choice of three- or six-pint oil reservoirs is offered.

Available as an extra is a float-switch control that actuates a visible or audible alarm when the oil supply is low. Then, if the supply is not replenished, the switch shuts off the machine and thus prevents damage to bearings.

Circle T-26 on Reader-Service Card

Beveled-Edge Hand Truck Makes Loading Easier



WHEEL-EZY HAND TRUCK with a more convenient, rugged handle mounting and a beveled nose that slides under materials easily has been announced by Rapids-Standard Co., Inc., 342 Rapistan Bldg., Grand Rapids, Mich. Loads up to 500 lbs. can be handled.

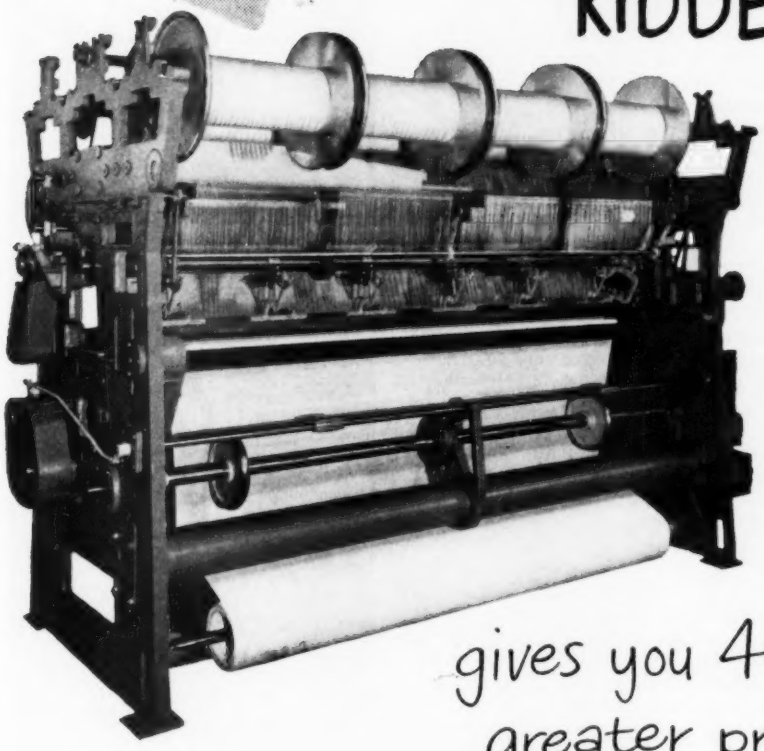
The new curved handle is securely welded to the truck frame at both top and bottom to prevent its being broken loose under jolts and jars of heavy service. The handle is also comfortable and convenient to grasp in any position and provides complete balance with all types of loads.

Various types of wheels can be provided. A double-handle model also is available.

Circle T-27 on Reader-Service Card

Get that SCRAP Back to WORK!

here's the NEW Model "E" KIDDE KNITTER



gives you 40 to 50% greater production on tulle, shoe fabrics, elastic power net, etc.

Production speeds up to 500 courses with 2 guide bars . . . up to 400 courses with 4 guide bars can be maintained 24 hours a day with the new Model E Kidde Knitter. A completely new machine, the Model E is equipped with high speed cams, totally enclosed and running in oil . . . double the usual number of guide bar rocker cams . . . pattern wheels or chain drum . . . quick stop . . . and practically non-breakable needles—all features never found in a Raschel machine before. Investigate how this machine can slash your knitting costs! Write for full information.

The word "Kidde" is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY

Kidde Knitter

For more information, write direct or use Reader Service post card.

15% More Production 45% Less Upkeep With Slo-Speed

Individual Slo-Speed drives replaced line shafting for driving batteries of knitting machines, reports Mr. Murray Tishler, Secretary-Treasurer of Diane Knit Fabrics Co., Norwalk, Conn. After one year of operation, records reveal Sterling Slo-Speeds increased production 15%, reduced power costs 12%, reduced maintenance 45%, improved personnel morale through greater plant safety and increased working areas.

STERLING SLO-SPEED

GIVES YOU THE ONE BEST LOW SPEED AND

gives uninterrupted service — carries heavy overhung loads — provides versatile mounting and flexibility in arrangement of machinery — saves valuable space — provides greater safety — costs less to install and use. An indispensable source of low speed power for:

Agitators	**Dryers**	**Presses**
Blenders	**Feeders**	**Pumps**
Blowers	**Kilns**	**Screens**
Conveyors	**Mills**	**Tumblers**
Cookers	**Mixers**	**Etc., etc.**

20-page illustrated catalog... Sterling Speed-Trol, Slo-Speed, Klosd and Klosd-Tite Electric Power Drives. Write for catalog No. 434

STERLING ELECTRIC MOTORS

Plants: New York City 51; Van Wert, Ohio; Los Angeles 22; Hamilton, Canada; Santiago, Chile
Offices and distributors in all principal cities

Fiber Characteristics

(*Continued from page 129*)

uniformity. The amount of fiber breakage or fiber elongation should be known for the carding conditions selected for each fiber and should be checked frequently by means of staple diagrams.

SLIVER-TO-TOP

Next, let us consider the processes involved in making top from card sliver. The mechanical condition of equipment used for converting sliver to top is as important as was pointed out in the discussion on carding. It should be remembered that equipment in top mechanical condition at all stages of processing is a prime necessity for good results with synthetic fibers.

In considering the pinnings to be selected in gilling or pin reducing, an important principle is the use of finer pinnings in successive stages. In general, finer pinnings are used for synthetics than for natural fibers.

The minimum staple length found satisfactory for adequate pin control is 2½ in. For this reason, all three fibers are now available in 3-in. as well as 2½- and 4½-in. lengths.

Orlon acrylic fiber requires the use of the minimum number of gillings to produce the desired sliver weight because of its low crimp retention and its tendency to lose crimp in working. All three fibers require the addition of antistatic and lubricating finishes after stock dyeing or top dyeing to provide adequate static protection and lubricity. It is essential that lubrication be done separately where blends of fibers are involved, just as it is true that wool should be oiled separately in a synthetic-and-wool blend.

Of the three fibers, nylon is the toughest and has the highest crimp, crimp retention, and mass cohesion; it therefore requires the finest pinning.

It is preferable to employ coarser pinning with Orlon because of its low crimp retention, low mass cohesion, and less need for vigorous working of the fiber.

Here again, Dacron falls in between these two, being closer to Orlon because neither has a high resistance to permanent stretch. Slivers of these two fibers should be spread as widely as possible, with the least compression on the sliver as it is fed to the pin reducer, in order to decrease the amount of working done on the fibers in the pinning zone.

The bulk of Dacron and Orlon in sliver form may require an increase

AT YOUR SERVICE

SPECIALIZED ENGINEERING

SPECIALIZED EXPERIENCE

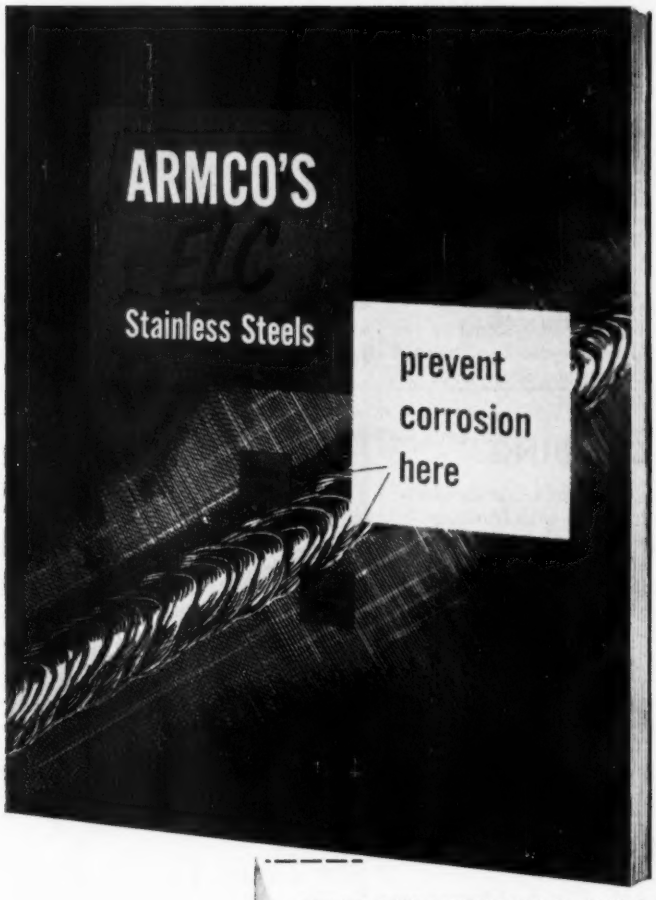
SPECIALIZED MACHINERY FOR TWISTING BUNCHING STRANDING FORMING AND LAYING IN THE TEXTILE • WIRE CORDAGE AND MANY OTHER INDUSTRIES

WRITE TODAY. YOUR INQUIRY WILL GET PROMPT ATTENTION

HASKELL-DAWES MACHINE CO., INC.

2231 E. ONTARIO ST.
PHILADELPHIA 34
PA.

new data / On Armco's Extra Low-Carbon Stainless Steels



If you process synthetic yarns or manufacture textiles that expose your equipment to highly corrosive conditions, you'll find it worthwhile to read a new 8-page booklet just published by Armco.

Titled "Armco's ELC Stainless Steels," it tells about the properties and advantages of these special extra low-carbon grades in welded wet processing equipment. Their low carbon (.03% maximum) eliminates the danger of corrosion alongside weld areas.

Higher concentrations of corrosive bleaches and dyes in the production of synthetic materials are prompting many textile mills to specify higher alloys of stainless steel for their new equipment.

One finishing and dyeing mill, for example, specified Armco 18-12 Mo ELC for all new equipment because the company anticipates changing to a higher concentration of corrosive chemicals in the production of synthetics. Their chief chemist believes that only by using Type 316L can he be sure the equipment will stand up under the new conditions.

Be sure to consult your equipment manufacturer about Armco ELC Stainless Steels the next time you plan new equipment. Meanwhile, send for your copy of this booklet which describes the advantages of these special grades. Just fill out and mail the coupon.

Mail This Coupon

ARMCO STEEL CORPORATION, 2643 Curtis Street, Middletown, Ohio

Send me the free booklet "Armco's ELC Stainless Steels"

NAME_____

TITLE_____

COMPANY_____

STREET ADDRESS_____

CITY_____ ZONE____ STATE_____

Armco Steel Corporation

2643 Curtis Street, Middletown, Ohio • Export: The Armco International Corporation

PROPER COLOR ASSORTMENT

Will Sell Goods

Acetate Dyed Yarns Are Big With Us Because You Can Get All Shades In Large or Small Batches — Style Yourself Into Orders.

JOBBERS OF NATURAL RAYON AND ACETATE YARNS

•

Atlantic Rayon CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

NEW YORK REPRESENTATIVE

Empire State Bldg.

Fifth Ave., New York 1

★

Sliver-to-Top

Nylon

- Finer range of pins
- Can use many ends of sliver in feed because of less bulk

Orlon

- Open ends in feed
- Coarse range of pins
- May require fewer ends in feed because of high bulk
- Increased trumpet sizes

Dacron

- Open ends in feed
- Coarse range of pins
- May require fewer ends in feed because of high bulk

in trumpet size, a reduced sliver weight, or a reduced number of slivers fed. Nylon generally has not required such changes.

All commonly used systems of pin reducing have been used successfully to produce quality yarns from all three of these fibers.

COMBING

There are two points that should be made in connection with combing.

First, since these fibers do not felt and cover up defects such as neps, a cleaner, more-uniform yarn is necessary for highest-quality end products. Combing, therefore, is generally desirable for clear-faced woven fabrics.

Second, trade experience has indicated that French combing is more desirable than Noble combing, since the objective in combing synthetics is only to reduce neps. For knitting yarns, combing is not generally required.

REDUCING AND ROVING

Since these synthetics are generally stronger than natural fibers, it is possible to achieve higher productivities in operations involving twist. Higher machine speeds with fewer ends down are the general rule.

The lowest practical tensions in reducing and roving are recommended for all three fibers. The high crimp recovery of nylon, which gives it a tendency to crush bobbins or lose loft, and the low crimp retention or ease of crimp removal for Orlon make low tension necessary.

Fiber finishes are hygroscopic and as such are affected by changes in relative humidity. Higher humidities tend to make finishes tacky, and the fibers are then harder to draft. This difficulty in drafting affects the amount of twist required in reducing

U. S. RING TRAVELERS

A "U.S." Service Man is right near you

When a U. S. Representative visits your mill, he offers a world of useful data on MODERN traveler practice—plus the finest travelers it is possible to produce.

For your BLENDS try "Bevel Edge"

The anti-friction design of these travelers, gives reduced end breakage, and in other ways helps spin blends more smoothly.

Prompt shipment from Providence & Greenville stocks

"A Style and Size for Every Textile Fibre!"

U. S. RING TRAVELER CO.

HOME OFFICE & FACTORY: PROVIDENCE, R. I.
SOUTHERN OFFICE & WAREHOUSE: GREENVILLE, S. C.

Write, wire or phone nearest office.

W. P. Vaughan, W. H. Rose
Greenville, S. C.—Box 1048—Phone 3-0915

O. B. Land
Athens, Ga.—Box 1187—Phone 478

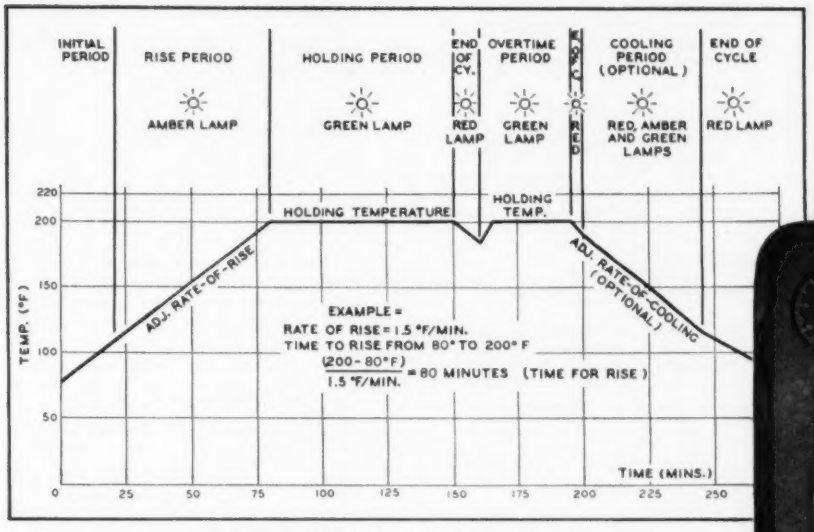
L. H. Mellor, Jr.
Mid-Atlantic States, 123 Treaty Rd.
Drexel Hill, Pa.—Phone Hilltop 6-1563

H. R. Fisher
Concord, N. C.—Box 83—Phone 2-8930

H. J. Smith
Providence—Box 1187—Gaspee 1-0100

No More DYE-BATH SHOCK

for Hosiery and Piece Goods



Typical Dyeing Schedule for Piece Goods using the new Foxboro Model 40 C-HC CycleLog Controller

. . . New Model CycleLog*

Automatically Controls Rate of Cooling as well as Rate of Rise

NOW YOU CAN PROTECT all your woven fabrics and hosiery from uneven shade, creasing, and crow's-feet caused by too rapid cooling of the goods while hot and plastic. New Model 40 C-HC Controller carries out *every* temperature step in the dyeing schedule—duplicates uniformity in every batch.

Like the widely-used Model 40 C-A CycleLog Controller, the new Model 40 C-HC automatically brings the bath to "the boil" at the desired rate, and holds the dyeing temperature for the required period. In addition, this special new model controls *cooling* . . . gradually lowers bath temperature at the safest rate without waste of time. For complete information, write for Engineering Data Sheet 220-60.

*Trade Mark

THE FOXBORO COMPANY, 847 NEPONSET AVENUE; FOXBORO, MASSACHUSETTS, U. S. A.

FOXBORO REG. U. S. PAT. OFF. CycleLog Controllers

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND

Test moisture content *in* 3 *seconds* with Moisture Register!

Model PD-1

Model K-2

You get *accurate*, almost instant, moisture content readings in **wool, cotton, rayon, nylon—practically any type of textile**—when you use Moisture Register Model PD-1 or Model K-2.

Either model gives you "on-the-spot" readings with guaranteed accuracy. They're simple to operate, require no technical knowledge or skill, weigh only 6 pounds, easily portable.

Model PD-1 tests textiles in loose or compressed forms with 3" penetration. Model K-2 tests cones, beams, rolls and similar forms.

ONE YEAR GUARANTEE!

Use one of these instruments **FREE** for 10 days. No obligation! Prove for yourself that Moisture Register will help you maintain higher standards, iron out production headaches, add to your reputation as a manufacturer of quality products. Fill out coupon, mail today!

ELECTRONIC MOISTURE REGISTER

MOISTURE REGISTER CO.
1510 W. Chestnut St.,
Dept. TW, Alhambra, Calif.

☐ Please send me, *without obligation!* for 10-day free trial,
Model.....for use on.....
Enclosed find purchase order to cover trial period.

NAME
TITLE
COMPANY
STREET
CITY
STATE

☐ Please send me information on Moisture Register for use on .....

Reducing and Roving

Nylon

Close ratches
Low and uniform package densities to avoid crushing
Harder to draft; use more roll pressure

Orlon

Most open ratches without sacrificing control
Low and uniform package densities to avoid stretching fibers
Easier to draft; use lower roll pressure

Dacron

Most open ratches without sacrificing control
Low and uniform package density for better delivery at spinning
Easier to draft; use moderate roll pressure

and roving steps. Any change in humidity is equivalent to a change in roving twist.

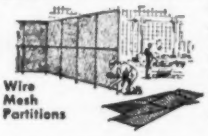
A consideration of ends down alone as the criterion of a good reducing and roving operation is no longer sufficient to characterize this process. The character and quality of the yarn is largely determined at this process. The roving operation can affect significantly the leanness, elasticity, residual shrinkage, yarn evenness, and ultimate strength of the yarn.

High roving twists, ratch settings that are too close, high drafts, and incorrect humidities can accentuate the effect of low or medium crimp retention of Orlon and Dacron to give sleazy yarns. High tension can stretch these two fibers because of their low resistance to stretch and cause high residual shrinkage or even break fibers of low tenacity to cause low ultimate yarn strengths. In other cases, high tensions in the drafting of fibers of medium to low resistance to permanent stretch, such as Dacron and Orlon, sometimes stretch individual fibers permanently and cause yarn unevenness, cockled yarn, or high ends down.

High fiber-to-fiber friction, as in Orlon, or high crimp retention, as in nylon, demands low roving twists for easy drafting and resultant maximum roving uniformity. The characteristics affecting the amount of roving twist necessary to maintain soft roving obviously are numerous.

Fibers of high crimp, high crimp retention, and high mass cohesion, such as nylon, may require additional pressure on roving rolls to avoid fiber slippage. Such pressure is not required with lower-crimp fibers such as Orlon. Usually, the softest twist that can be used to unwind the roving package

For complete protection surround your property with a Stewart Chain Link Wire Fence—cover windows and skylights with wire guards—place steel folding gates at doors—protect tools, materials, etc., with wire mesh partitions. Stewart literature tells the whole story. Write for it today. Please mention products in which you are interested.



THE STEWART IRON WORKS CO., INC.
2010 Stewart Block, Cincinnati 1, Ohio
Experts in Metal Fabrications since 1886

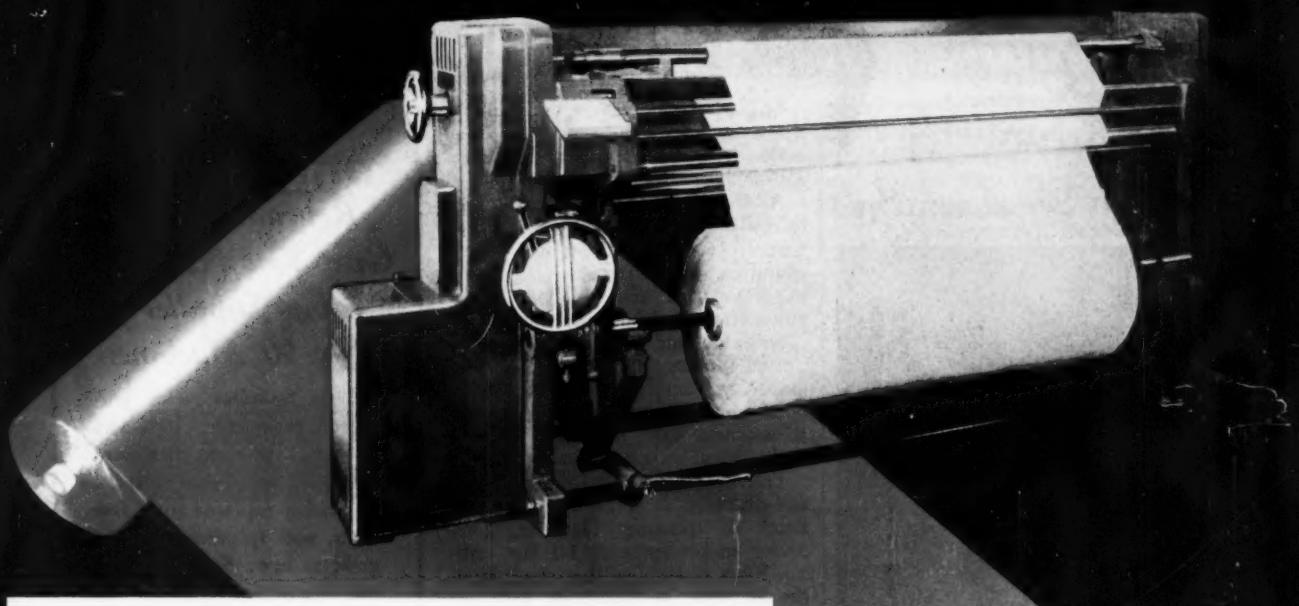
Stewart IRON and WIRE FENCES

NO OILING IN THIS MILL

One 600,000-spindle mill has been using Whitehead Permalube Saddles and Nebs for two years on *hardened-steel* rolls. Ends down have been reduced from 30 to 15. Frames are cleaned only once in several weeks, instead of twice daily. And oiling costs have been completely eliminated. Whitehead Permalube Saddles and Nebs can do the same for you. Write for complete information.

Coleman Co., Box 3597, Greenville, S.C.
Roy Schrimshire, Box 906, Columbus, Ga.
Matthews Equip. Co., 93A Brdwy., Prov., R.I.
Don O'Hair, Box 8254, Charlotte 8, N.C.

WHITEHEAD ENGINEERING CO.
522 WEST PEACHTREE STREET, N.W.
ATLANTA 3, GEORGIA



The VAN VLAANDEREN Constant Cloth Speed TUBER

A Smooth Performer

Most modern fabrics benefit by tensionless processing in the wet stage. Control of tension when *tubing* also has definite advantages, giving a better package, accurately measured.

CONSTANT CLOTH SPEED up to 200 yards per minute is possible, under controlled tension from near tensionless to medium tension. Package density is uniform as predetermined.

ACCURATE MEASURING is given at all times, since tension between let-off and take-up can be reduced to the minimum, as the measuring drum is a driven unit of the machine. Measuring roll is non-corrosive with a long-wearing finish and mounted on a moveable carriage for easy selvage alignment.

THE V. V. CONSTANT CLOTH SPEED TUBER is easily and quickly loaded. Start, let-off, take-up and measuring drum are all synchronously controlled by one foot pedal. Stop brake is controlled by hand lever.

Ask to see this machine in operation.

The machine illustrated is also available with conventional, variable cloth speed for those who do not require the tensionless feature. Improved from time to time to meet increasingly exacting requirements, this machine has consistently given superior packaging performance.

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street • Paterson 3, New Jersey

Cable address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machinery for processing modern fabrics

Cuts Nylon Sliver Accurately Into 2" Lengths

TAYLOR-STILES

FIBER CUTTER

The cutter shown here, cutting nylon sliver six strands at one time, is one of several types that provide for all the staple cutting, sliver cutting, and thread waste cutting needs of textile production.

The unique shearing action of the knives in these cutters, coupled with other special features, assures clean, uniform cutting.

Taylor-Stiles Textile Cutters are economical in power use, and are easy to maintain.

The knives used in them are specially shaped and tempered to meet the exact requirements of each type of operation. They are made by our own knife experts.

Ask us about our cutters for your own textile cutting purpose. We will be glad to make sample cuttings if you send us some of the material you wish to cut.

TAYLOR-STILES Company

CUTTING MACHINES & KNIVES

15 Bridge Street Riegelsville, New Jersey

without fiber-to-fiber slippage is sufficient.

SPINNING AND TWISTING

Higher-strength fibers, particularly nylon and Dacron, can be spun at higher productivities than other fibers and at lower ends-down counts.

All three fibers have been spun successfully on cap, ring, and flyer frames. Here, again, the mechanical condition of the frames is of prime importance in achieving maximum productivity and highest yarn quality.

Spinning and twisting should be carried out at the same relative humidity and temperature as the roving operation and should be maintained at constant level to assure uniform drafting and uniform yarns.

Practically all the fiber characteristics discussed in roving are of importance in spinning. However, good roving makes spinning far less critical. Fiber distortions that result from the spinning of rovings of excessive twist usually cannot be overcome by modifications to the spinning operation, but there are several helpful measures that one can try that may minimize trouble. For the fibers of low or medium resistance to permanent stretch, such as Orlon or Dacron, more-open ratches, lower drafts, and lower humidities may be employed as a trouble-shooting measure for a particular lot of high-twist roving. Because of nylon's high resistance to permanent stretch, individual fiber stretching is usually not a serious problem.

Depending upon the lubricating power of the fiber finish employed, tenacity and abrasion resistance are influential in selecting spinning speeds and traveler weights.

In all fibers, it is desirable to use soft packages in both spinning and twisting.

Spinning and Twisting

Nylon, Orlon, and Dacron

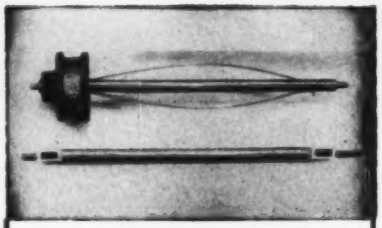
- Humidity control
- Lowest practical roving twist
- Most open ratches without sacrificing control
- Lowest practical tensions
- Softest practical packages
- High productivity

Textile Fungicides

(*Continued from page 137*)

harsh hand would do much to discourage wide civilian acceptance.

The fungicide must have no adverse chemical effects on the fabric processed. The tensile strength of the fabric must be maintained through



Renewable Tips Give You New Top Bobbin Spindles for No. 90 Machines

Wayne Spindles, with patented, renewable, tool-steel tips cost little more than solid end spindles. Worn tips can be quickly replaced for a few cents, and spindles are then good as new. Send for sample—see how to save time and money.

WAYNE Mfg. Co.

HONESDALE, PA.

Static!

It's costly and wasteful. The SIMCO "Midget" Static Eliminator is the least expensive, most effective neutralizer available. Equip your machinery now!

the SIMCO company

9th and Master Streets

Philadelphia 22, Penna.

Five Du Pont Continuous Bleaching Systems that can help lower costs

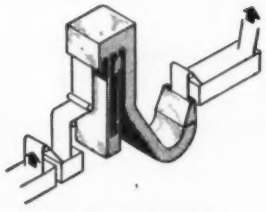
CAPACITIES FROM 500 TO 7,500 LBS./HR.

Whether your mill is large or small, there's a Du Pont system to meet your space and production requirements.

Each system assures lower over-all cost, flexibility, and ease of operation and control. Leading mills everywhere have modernized with continuous bleaching. So join the trend to better bleaching . . . investigate Du Pont Continuous Bleaching Systems. The coupon below will bring you full details. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

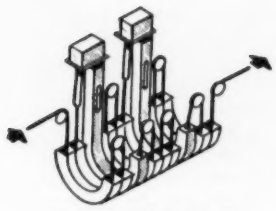
NOTE: Du Pont does not build or sell the equipment illustrated. Du Pont Systems are available from the following equipment manufacturers:

H. W. Butterworth & Sons, Bath Ayres, Pa.
Cook—P & N Machine Co., Boston, Mass.
Greenville Steel & Foundry Co., Greenville, S. C.
Rodney Hunt Machine Co., Orange, Mass.
Weisner-Rapp, Inc., Buffalo, N. Y.
Proctor & Schwartz, Inc., Philadelphia, Pa.



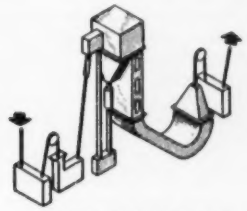
500 TO 1,000 LBS./HR.

Compact single-stage unit for the smaller plant or for specialty bleaching in larger plant. Handles cloth continuously at average rate of 75 yards per minute.



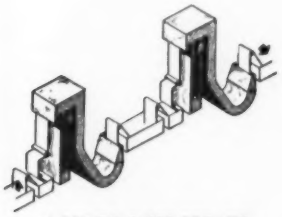
750 TO 1,500 LBS./HR.

Two-stage unit produces maximum yardage at lowest possible cost. One-man operation means savings in labor. Goods in the 3-7 yds./lb. class can be handled at 100 yds./min. speed.



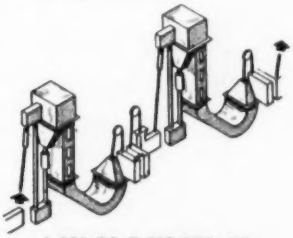
1,500 TO 3,000 LBS./HR.

Excellent arrangement for production requirements of 200,000 to 400,000 yds. weekly. Handles light and heavy constructions. Available in open-width design for goods that cannot be rope-processed.



2,000 TO 6,000 LBS./HR.

Flexible arrangement permits installation as single or two stage system. Requires only 325 to 500 sq. ft. floor space. Handles 75 to 125 yds./min. Matched units can be added to increase capacity.



3,000 TO 7,500 LBS./HR.

For large-scale bleaching of print cloths, terry toweling, colored yarn, shirting, etc. Can be designed to process up to 300 yds./min. Open-width design also available.

SEND FOR FREE ILLUSTRATED BOOK

about Continuous Bleaching. It describes typical installations in leading mills and all phases of the process. Just fill out and mail the coupon below for your copy.

DU PONT CONTINUOUS PEROXIDE BLEACHING

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems—including your free book.

*Name*_____ *Position*_____

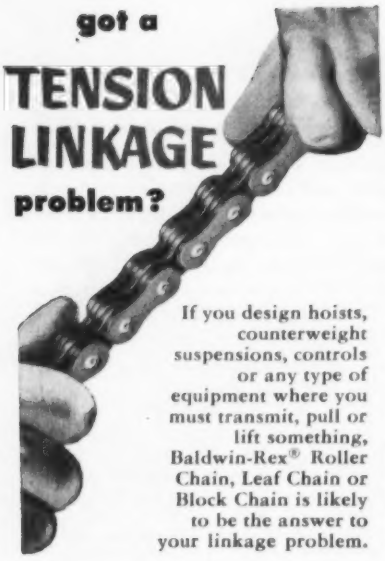
*Firm*_____

*Address*_____

*City*_____ *State*_____

got a

TENSION LINKAGE problem?



If you design hoists, counterweight suspensions, controls or any type of equipment where you must transmit, pull or lift something, Baldwin-Rex® Roller Chain, Leaf Chain or Block Chain is likely to be the answer to your linkage problem.

here's a good example:

Transmission from a double-acting hydraulic cylinder to a shaft. Since motion must be transmitted in two directions, an idler sprocket is required as shown in the illustration. Since operation may be practically continuous, and shock effects are probable, *chain* is the answer. When this type of installation is applied to rudder control, shock and fatigue considerations are especially important.

our Tension Linkage bulletin

Covers typical examples of tension linkage applications . . . helpful step-by-step data on equipment selection and examples to guide you in making your selections. There are tables of dimensional data and other important facts you'll find useful in your work. Send for your free copy today. Chain Belt Company, 346 Plainfield Street, Springfield 2, Mass.

BALDWIN-REX

ROLLER CHAINS

A PRODUCT OF

Chain Belt COMPANY OF MILWAUKEE

District Sales Offices or Distributors in principal cities throughout the world.

long period of use under all conditions. A large group of treatments, although effective as fungicides, significantly lower the tensile strength of the fabric. Some do so immediately upon treatment of the fabric, as in the case of acidulation of cellulose. Others cause degradation when exposed to sunlight, as in the case of copper naphthenate and the halogenated phenolics.

Lightning Protection

(*Continued from page 99*)

motors that have been in service for a long time. Therefore, the indication is that the smoothed-out voltage wave of a lightning stroke through the arresters is enough overvoltage to break down the weak points in the insulation of a motor.

To prevent motor failures of this type, we make regular insulation tests and repair all motors that show weak insulation.

Poor grounds also cause our motors to fail during electric storms. When motors aren't properly grounded, lightning arresters and surge capacitors cannot drain off the lightning surge.

We checked our grounds two years ago and plan to check them every two years from now on.

Our future program to insure safety of equipment and to insure continuous motor performance will include:

1. Obtaining safe grounds (five ohms or less)
2. Keeping motor insulation in good condition
3. Using proper arresters and capacitors.

Machine Variations

(*Continued from page 131*)

in carding should reduce to $4\% \div \sqrt{16}$, or 1% in lap-back drawing, plus an empirical allowance of 0.2%. Where these statistical expectations are not fulfilled, we should look for trouble in the process.

In one instance it was found that unauthorized shifting of the lap-winder pressure weights produced slight differences in the average yard weights between lap winders and resulted in excessive within-frame variation on the drawing frames.

Simple Way To Get Coefficient

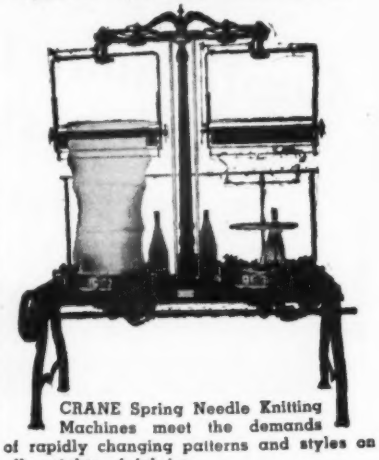
A simplified method of computing coefficients of variation that involves only a few minutes' analysis of the regular sizing data is shown in Fig. 3.

The data represent a series of sizings of yarn. For each group of four values, the range (difference between the highest and lowest reading) is

1870 CRANE 1953

SPRING NEEDLE KNITTING MACHINES

Speed - Quality - Low Cost

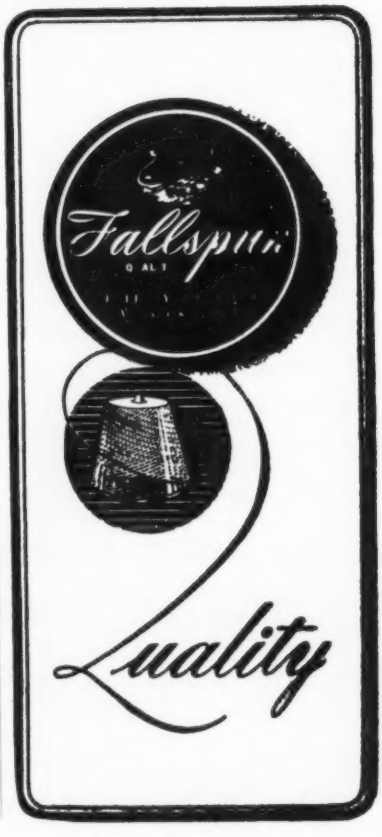


CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

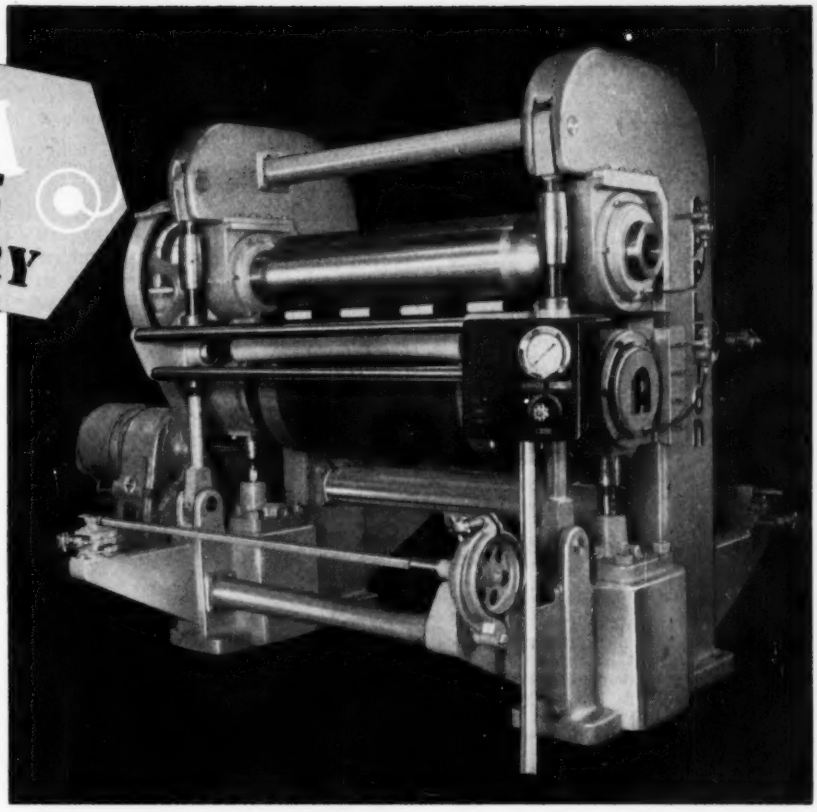
CRANE

MANUFACTURING CO.

LAKEPORT, N. H.

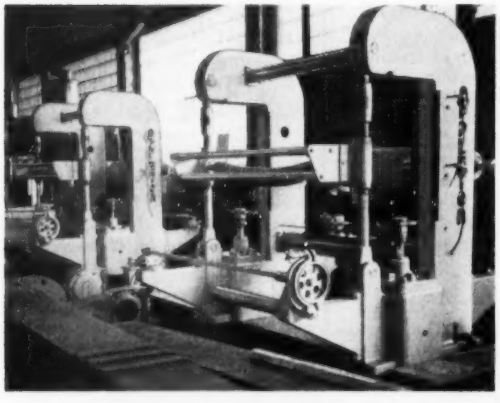


THE to TEXTILE INDUSTRY



APPLETON TWO-ROLL 50-TON HYDRAULIC SCHREINER CALENDER

Designed for maximum production and minimum maintenance, this Appleton Two-Roll 50-Ton Hydraulic Schreiner Calender is particularly well adapted for "Everglaze" schreiner work. Both rolls are mounted in anti-friction bearings, with force feed oil lubrication. A gas burner, water-cooled cylinder, and a variable speed motor to operate on A. C. current are other salient features. Some of America's finest textile machinery is made by Appleton . . . invite us in to discuss your requirements . . . a call or a card will bring our representative, at no obligation, of course.

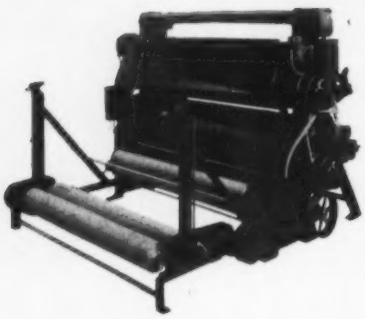


Appleton Two-Roll 50-Ton Hydraulic Schreiner Calender Under Construction

APPLETON MACHINE COMPANY
APPLETON WISCONSIN

CUSTOM-BUILDERS OF PULP, PAPER AND TEXTILE MILL MACHINES

"WE GET TWICE AS MUCH WORK WITH THIS AV SHEAR"



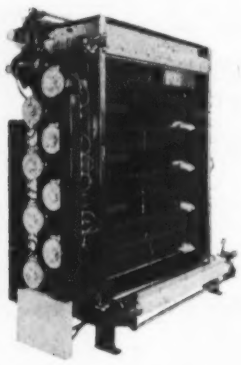
HERMAS AV SHEAR

Statements by the plant engineer of a leading mill.

"I like the pull-through vertical feed. No weight of material against either ledger or revolvers. When cloth hangs vertically it is taut. The vertical travel position seems to be the natural position, with no chance of the goods being slack."

"Another feature that appeals to us is that we can set all the clothrests at one time."

"We get more than twice as much work with this AV Shear as with the old horizontal types, without nearly as much effort."



HERMAS BRUSH

- Does a superior cleaning job without damage to cloth.
- All rolls are Metl-kor brush rolls.
- Rolls individually motor driven.
- Rolls simultaneously stopped by positive brake action. No overruns by individual rolls. Synchronized with shear.

Send for full facts about Hermas Shears and Brushes.

HERMAS MACHINE COMPANY

HAWTHORNE NEW JERSEY

Specialists in clothroom equipment.

found. One type of range is taken from within the group of four readings from one frame, and the other type is taken from four different frames. Thus, "range within" and "range over-all" are found, totaled, and averaged. (This average range is different from the unsuitable maximum range). The range is then expressed as a percentage of average yarn number and multiplied by the proper statistical conversion factor (0.49 in this case) from Fig. 4 to obtain the coefficient of variation.

Normally, the abbreviated method is only slightly less accurate than the rigorous technique shown in Fig. 2. However, the abbreviated method applies only if the data are taken at random. In the longer method the data represent a series of weights in succession and not at random, and this fact makes the more lengthy computation necessary.

Useful Accessories For Textile Mills

► To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.

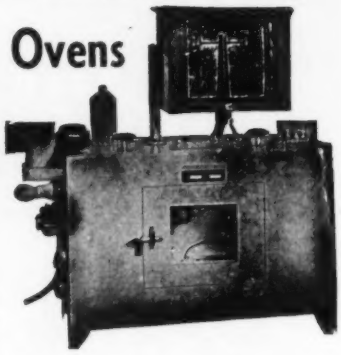
All-Glass Insulating Windows

All-glass double-glazed insulating windows, edges of which are electrically fused to provide a glass-to-glass seal with no metal, marking materials, or other assembled parts in their construction, have been put on the market by Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa. Known as Twindoweld, the insulating window eliminates edge conductivity; so it is particularly desirable for air-conditioning applications. It will be available in sizes up to 50x62 ins. It consists of two layers of $\frac{1}{8}$ in.-thick glass separated by a $\frac{3}{16}$-in. air space. (U-1)

Aluminum Belt Conveyor

Increased load capacity, handy belt-pitch adjustment, and a price reduction ranging from 7 to 17% are new features of the redesigned LS aluminum belt conveyor now being manufactured by Rapids-Standard Co., Inc., Rapistan Bldg., Grand Rapids 2, Mich. Loading rates have been stepped up considerably by the use of a $\frac{1}{2}$-hp. electric motor to power the belt instead of the former $\frac{1}{3}$-hp. motor. A $\frac{3}{4}$-hp. motor is also available. The conveyor is

Textile Testing Ovens



For *accurate* testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼" both 6" deep. Occupies table space 20" x 40".

EMERSON Ovens

Are built in different types to handle wool, cotton and silk. Baskets are designed specially for each class of work. Write for details on EMERSON OVENS to fit your process.

EMERSON APPARATUS CO.
177 Tremont St. Melrose 76, Mass.

DISCARD ACIDS and BISULPHITE
After Chlorine Bleaching
USE
AFTERCHLOR

May be used in Package Machine

Absorbs Chlorine

NON ACID will not Tender
REQUIRES NO AFTER SOAPING
Saves Time and rinses
LESS FUMES IN BLEACH HOUSE

PROCESS

Chlorine bleach as usual—Rinse—Neutralize with AFTERCHLOR—Rinse

So. Offices:
309 Volunteer Bldg., Chattanooga, Tenn.
205 Church St., Charlotte, N. C.

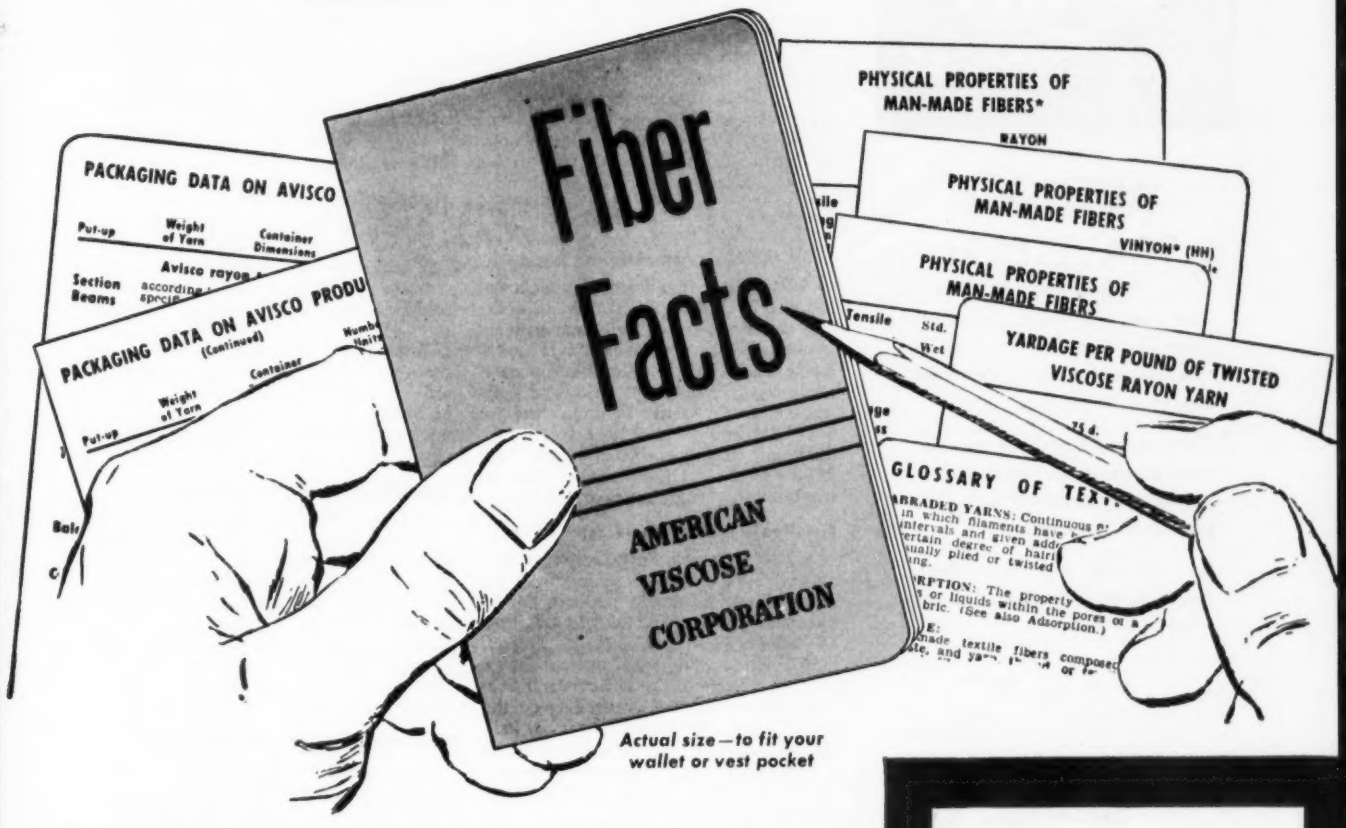
RICHMOND OIL, SOAP AND CHEMICAL COMPANY INC.

Export Agents
HOWARD G. GODFREY AND CO., INC.
456 Fourth Ave.
N. Y. 16, N. Y.
Cable Address
Godfreyara

1041-43 FRANKFORD AVE PHILADELPHIA 25, PA

Rayon Reports

YOUR NEW "FIBER FACTS" IS READY!



Actual size—to fit your wallet or vest pocket

Latest Edition of Vest Pocket Handbook Includes Up-To-The-Minute Information

A newly revised edition of Avisco's "Fiber Facts" is now ready for distribution. The popular little handbook that slips into your wallet or vest pocket contains a wealth of essential information that mill executives and others in the textile industry find practically indispensable.

Included in the booklet's glossary are definitions of newer synthetic fibers. A new section gives important packaging data on Avisco rayon yarn, staple, tow, and tire yarn and fabric, as well as Avisco acetate yarn. Another addition is a Processing Tension Guide for warping, winding and throwing, and copping rayon and acetate filament.

Sections of the booklet give tables on physical properties of rayon and other synthetic fibers, denier conversion, spinning twist calculations, and warp yarn and filling yarn requirements. There is an up-to-the-minute listing of Avisco Textile Chemicals and their applications. Other features are a bibliography of rayon publications and a convenient calendar.

A request for the new 48-page edition of "Fiber Facts" on your firm's letterhead will bring your free copy promptly.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

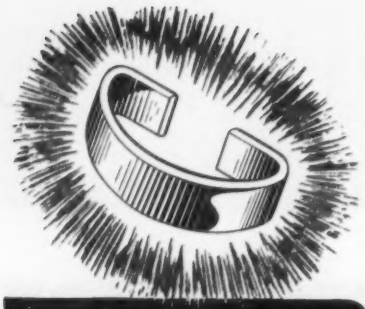
1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's first producer of man-made fibers

RAYON ACETATE VINYON* FILATEX®

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.



DARY
Ring Travelers

WELCOME TRAVELERS!

The welcome sign for Dary Ring Travelers has been up in spinning and twisting rooms for well over 50 years!

Dary users know they can depend on steady performance regardless of the tough tests they give Dary Travelers.

So, welcome your Dary Ring Traveler man the next time he stops by!

Always specify
DARY Ring Travelers

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS
LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

manufactured in 10- and 15-in. widths and in five lengths from 11 to 21 ft. (U-2)

Ball-Bearing Casters

Ball-bearing treads, wheels, and casters, machined and with several other important advantages, have been put on the market by Vesco, Inc., 5023 Wilkinson Blvd., Charlotte, N. C. The casters are available in both 4- and 6-in. diameters and in all types. Bearings are pre-greased before assembly. Wheels are either swivel or rigid. (U-3)

Confidential Inter-Talk System

A multiple hand-set inter-talk system has been introduced by Executone, Inc., 415 Lexington Ave., New York 19, N. Y. Confidential two-way inter-communications where people are within earshot of one end of the conversation are possible with the new unit. The user simply lifts the handset from its cradle, depresses the built-in talk button, and speaks in a quiet tone. His voice is amplified to the required volume level and is clearly heard by the person being called. The return answer is heard only by the person using the hand-set station where the call originated. (U-4)

Drum-Handling Attachment

A horizontal drum-handling attachment completely interchangeable in its entire line of fork trucks is being manufactured by Clark Equipment Co., Circle Drive, Battle Creek, Mich. The attachment is semiautomatic, and it is quickly and easily adjustable to a variety of drum sizes for horizontal lifting and tiering. It can handle drums ranging in over-all lengths from 26 to 38 ins. Drums can be handled empty or full, singly or in pairs. (U-5)

Five-Range Hand Tachometer

A new, universal five-range hand tachometer, Type UO, with an improved slit coupling overfeed device, has been put on the market by Herman H. Sticht Co., Inc., 27 Park Pl., New York 7, N. Y. The improved slit coupling with overfeed device prevents damage to the tachometer mechanism from accidental overfeeding on the wrong range. Each tachometer is individually calibrated with hand-drawn scales to highest accuracy. They are direct reading in revolutions per minute and so require no calculations. (U-6)

Gas-Powered Maintenance Machine

The Three-Way Maintainer, gas-powered cleaning machine that comes in two different models, with sweeping swaths of 24 and 36 ins., has been put on the market by Wilshire Power Sweeper Co., Glendale 4, Calif. The unit can be quickly converted to suction or blowing by connecting a hose attachment to either of two outlets above the brush. Dual clutches permit stopping the brush reel while operating the air system. A pick-up wand enables the operator to reach up to clean shelves and other hard-to-reach places. The unit pulls in excess of 350 cu. ft. of air per minute. (U-7)

Giant-Size Grease Gun

Four new giant-size lever-type grease guns have been put on the market by Lincoln Engineering Co., Natural Bridge Ave., St. Louis 20, Mo. The gun holds 40 to 100% more lubricant than ordinary grease guns. Two 21-oz.-capacity guns developing 10,000-lb. pressure, a 32-oz.-capacity gun developing 10,000-lb. pressure, and a 32-oz.-capacity volume-type gun developing 4,300-lb. pressure are available. All models include a long hydraulic coupler extension for ease in contacting hard-to-reach fittings, and a filter nipple for refilling guns from a filler pump. (U-8)

Heavy-Duty Magnetic Sweeper

A rotating magnetic sweeper for use on large areas and for collecting larger iron pieces has been developed by Multi-Finish Mfg. Co., 2114 Monroe St., Detroit 7, Mich. The sweeper has an unloading method in which the thin, tough neoprene-nylon cover is stripped off after use and the accumulated trap iron is poured into a collection box. The magnetic housing is 8 ins. in diameter. Clearance under the housing is 1¼ ins. The unit can be pushed or pulled with a handle or may be easily attached to any vehicle. (U-9)

High-Quality Needle Oil

A high-quality needle oil, Gulftex Oil A, has been developed by Gulf Oil Corp., 722 Gulf Bldg., Pittsburgh 30, Pa. It has outstanding rust-preventive properties and oxidation stability at moderate temperatures. Tests at full-fashioned hosiery mills indicate that the product controls corrosion and resists gumming exceptionally well, and it also prevents build-up of size on needles. It is also suitable for use as a lubricant for sewing machines, where staining is often a problem. (U-10)

2,000-Lb.-Capacity Pallet Stacker

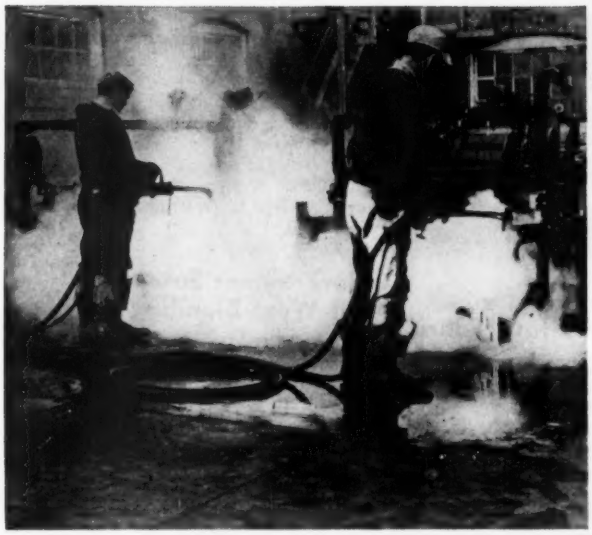
A new 2,000-lb.-capacity telescopic pallet stacker with power elevation has been introduced by Raymond Corp., Greene, N. Y., to be used in conjunction with electric trucks and other industrial applications. The unit handles pallets 30 to 47 ins. wide and up to 48 ins. long. The lowered height of the fork is 3 ins.; elevated height is 115 ins. A ¾-hp. motor is standard equipment. (U-11)

Variable-Speed Motor Control

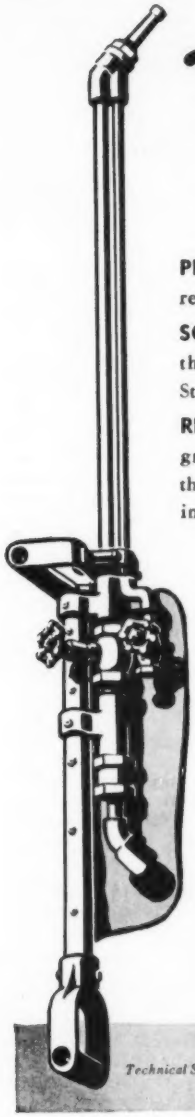
A redesigned line of electronic variable-speed motor controls has been developed by the Servofeed Div., Electro Devices, Inc., 6 Godwin Ave., Paterson, N. J. The new electrical design utilizes the motor-series field as a torque signal source in a patented feedback circuit that provides constant torque capability. Controlled acceleration on many models allows application of high-inertia loads without placing excessive torque load on materials. (U-12)

Waterproof Packaging Tape

A new economy pressure-sensitive tape for overseas waterproof packaging has been announced by Industrial Tape Corp., New Brunswick, N. J. Known as Permacel 691, the new tape conforms to government specifications JAN-G-127, Type I, Grade B. It is designed for the waterproof sealing of cartons and equipment and will serve as a companion tape to Permacel 68 but will sell at a lower price. (U-13)



BLAST
equipment clean



PROBLEM: Cleaning 900 looms before rebuilding.

SOLUTION: Oakite Penetrant, applied through the Oakite Solution-Lifting Steam-Gun, using the mill's steam supply.

RESULTS: Loom frames stripped of grease, muck, even paint in one-fourth of the usual time—and without handscraping, brushing, scrubbing.

This Oakite Steam-Gun hits dirt with heat, force, powerful Oakite detergent. Cleans everywhere . . . removes even the heaviest soils. Can't be beat for cleaning loom heads, slasher drums, spinning and twisting machines, unit heaters, etc.

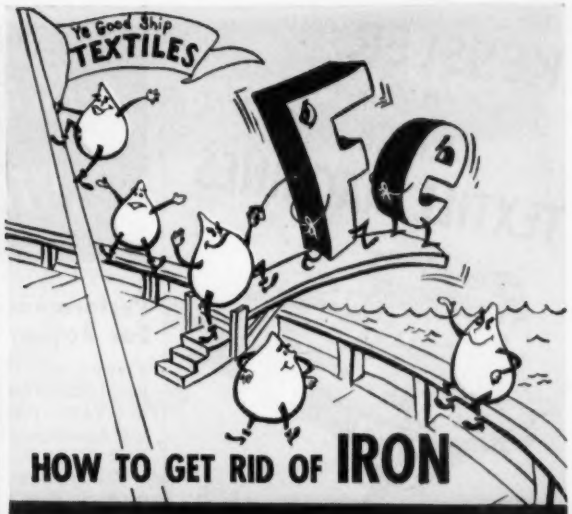
FREE FOLDER gives details. Write Oakite Products, Inc., 42 Rector St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada



HOW TO GET RID OF IRON
...Versene®

IRON — BANE OF PROCESSORS

In textile processing metallic contamination does things to fabrics and fibers that always spoil goods and cost money. Iron causes yellowing in white goods, prevents level dyeing, causes shade changes, spotting, streaking and is often responsible for crocking. Minute traces of copper, zinc, lead and other metals cause other problems of equal seriousness.

VERSENE ELIMINATES IRON

Versene-T, made especially to inactivate and solubilize iron and other metallic salts in concentrated caustic solutions, gets fibers and fabrics shades whiter. A *Versene* (Regular) rinse after viscose coagulation increases whiteness and tensile strength by removing lead, zinc and other metal impurities. *Versene* also extends the life and persistency of peroxide both in the bath and on the cloth. With synthetic and other detergents, *Versene* acts synergistically to get fabric and fibers cleaner. Because it removes the cause of metallic ion contamination, *Versene* can cut your costs, save yards of goods and miles of fibers. It is well worth investigation.

VERSENE QUALITY GUARANTEED

Made only under F. C. Bersworth processes and patents, the *Versenes* are guaranteed for uniformity of quality and chelating (complexing) power. Exceptionally stable at high temperatures throughout the pH range, they are available in liquid or dry form. Write Dept. **D** today for samples and Technical Bulletin #2. Chemical counsel on request.

VERSENE WATER TEST KIT. Tells Total Hardness in 2 minutes. Accurate to 1 grain per gallon. Versenate method. Complete with instructions $5.00 Postpaid.

KEY TO CHELATION

'Chemistry's most precise chemicals'

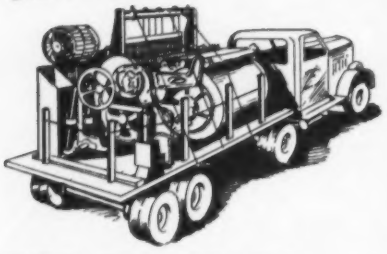
BERSWORTH CHEMICAL CO.

FRAMINGHAM, MASSACHUSETTS

WAREHOUSE STOCKS

Providence Agent: George Mann & Co., Inc., 251 Fox Point Boulevard, Providence, R.I.
W. Coast Agent: Griffin Chemical Co., San Francisco, Los Angeles
Midwest Agent: Kraft Chemical Co., Inc., 917 W. 18th Street, Chicago
Wasatch Chemical Co., Salt Lake City, Utah
Southwest Agents: Barada & Page, Inc., Dallas, Houston, Kansas City, etc.
Chas S. Tanner Co., 1815 Liberty Life Bldg., Charlotte, North Carolina
Siegel Chemical Co. – Brooklyn, N. Y.

KESSLER
HAS BEEN
TRUCKING
TEXTILE MACHINES



FOR 35 YEARS
FOR LEADING
TEXTILE MILLS

MACHINES
MOVED INTACT—
NO TRANSFERS

Kessler gives you COMPLETE specialized trucking service — skidding, loading, direct delivery (no transfers), unloading, placing, unskidding. Machines moved in one piece — no costly taking down, no re-assembling. Some 95% of our business is in the textile field; so we know best how to handle this machinery, even tho' extra high and extra wide. We also give expert service on boxing or crating for export, and direct delivery to pier. Our storage facilities are also at your service.

For money-saving estimates, just write or 'phone us.

KESSLER
TRUCKING COMPANY
Heavy Rigging & Hauling
52-60 BERKSHIRE AVENUE
Paterson 2, N. J. Phone MUlberry 4-5132-3
SERVING
Connecticut, Delaware, Maryland
Massachusetts, New Hampshire, New Jersey
New York, North Carolina, Pennsylvania
Rhode Island, South Carolina, Georgia
Tennessee, Virginia, West Virginia
District of Columbia, Ontario, Canada

Books of Interest

Performance Standards For Rayon, Acetate Fabrics

AMERICAN STANDARD MINIMUM REQUIREMENTS FOR RAYON AND ACETATE FABRICS; American Standards Association, Inc., 70 E. 45th St., New York 17, N. Y.; paper, 141 pages, $4.25.

This publication contains 51 end-use standards that for the first time in textiles set up minimum performance requirements. If accepted generally, the ASA standards will enable consumers to know what to expect from the fabrics they buy. Such properties as launderability, permanence of finish, strength of fabric, shrinkage, colorfastness, and flammability are evaluated for each of the booklet's 51 fabrics in its designated end use.

The standards are published in four sections, each of which is available separately. Section heads include "Women's and Girl's Rayon Weaving-Apparel Fabrics" ($1), "Men's and Boy's Rayon Wearing Apparel" (80¢), "Rayon Home-Furnishing Fabrics" (65¢), and "Test Methods" ($2.25).

Terry-Fabric Manufacturing Explained in Detail

PRACTICAL TERRY WEAVING AND DESIGNING, by Thomas Hargreaves, King St., Iroquois, Ont., Canada; paper, 37 pages, $3.

This booklet is a reprinting between two covers of many of the practical articles on terry weaving and designing that have appeared in American and British textile journals during recent years. A better "how-to" reference could not be found for mill men engaged in terry-fabric manufacturing or for new mill personnel or students entering the field for the first time.

Eleven articles, with labeled sketches, tables, pattern designs, and original photographs, are reproduced.

Industrial Harmony Through Profit Sharing

CAUSES OF INDUSTRIAL PEACE UNDER COLLECTIVE BARGAINING; National Planning Association, 1606 New Hampshire Ave., N. W., Washington 9, D. C.; paper, 60 pages, $1.

A drastic change in 1940 from bad to good labor relations between American Velvet Co. of Stonington, Conn., and the Textile Workers Union of America (CIO) marked the beginning of industrial peace at that plant.

This case history tells how the company and the union, in an atmosphere of suspicion, financial insecurity, and general unrest, stopped their horsetrading and turned to realistic collective bargaining with mutually profitable results. A profit-sharing plan came into being at that time.

The record is particularly impressive in view of the fact that many participants in the 1940 union-management bargaining were involved in the strife and mistrust before 1940.

Government Survey On Wool Blending

SURVEY TO IMPROVE THE UTILIZATION OF WOOL IN NAVY FABRICS, PB 111096; Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C.; mimeograph, $4.50.

A critical review of current wool-blending techniques, with a view to providing a scientific basis for creating desired blended-wool fabrics, is given in this research report.

Major divisions in the report include descriptions of how fibers are blended, why they are blended, and the problems involved in the processing of blends.

Latest Edition Of ASTM Standards

1952 BOOK OF ASTM STANDARDS, Part 7; American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.; cloth, 1364 pages, $10.

Part 7 of the well-known book of standards put out by ASTM this year includes standards, specifications, tests, and definitions for textile materials. A detailed subject index makes it easy to determine tests.

Textile-material standards descriptions are handled under the following headings: (1) terms and definitions, (2) testing machines, (3) humidity testing, (4) interlaboratory testing, (5) identification and qualitative analysis, (6) resistance to insect pests and organisms, (7) fibers, (8) yarns, threads, and cordage, (9) fabrics, (10) hosiery, (11) asbestos textiles, (12) bast and leaf-fiber textiles, (13) cotton textiles, (14) glass textiles, (15) rayon, acetate, and silk textiles, (16) wool textiles, (17) pile fabrics, (18 felt, and (19) yarn construction.

Booklets and Manuals

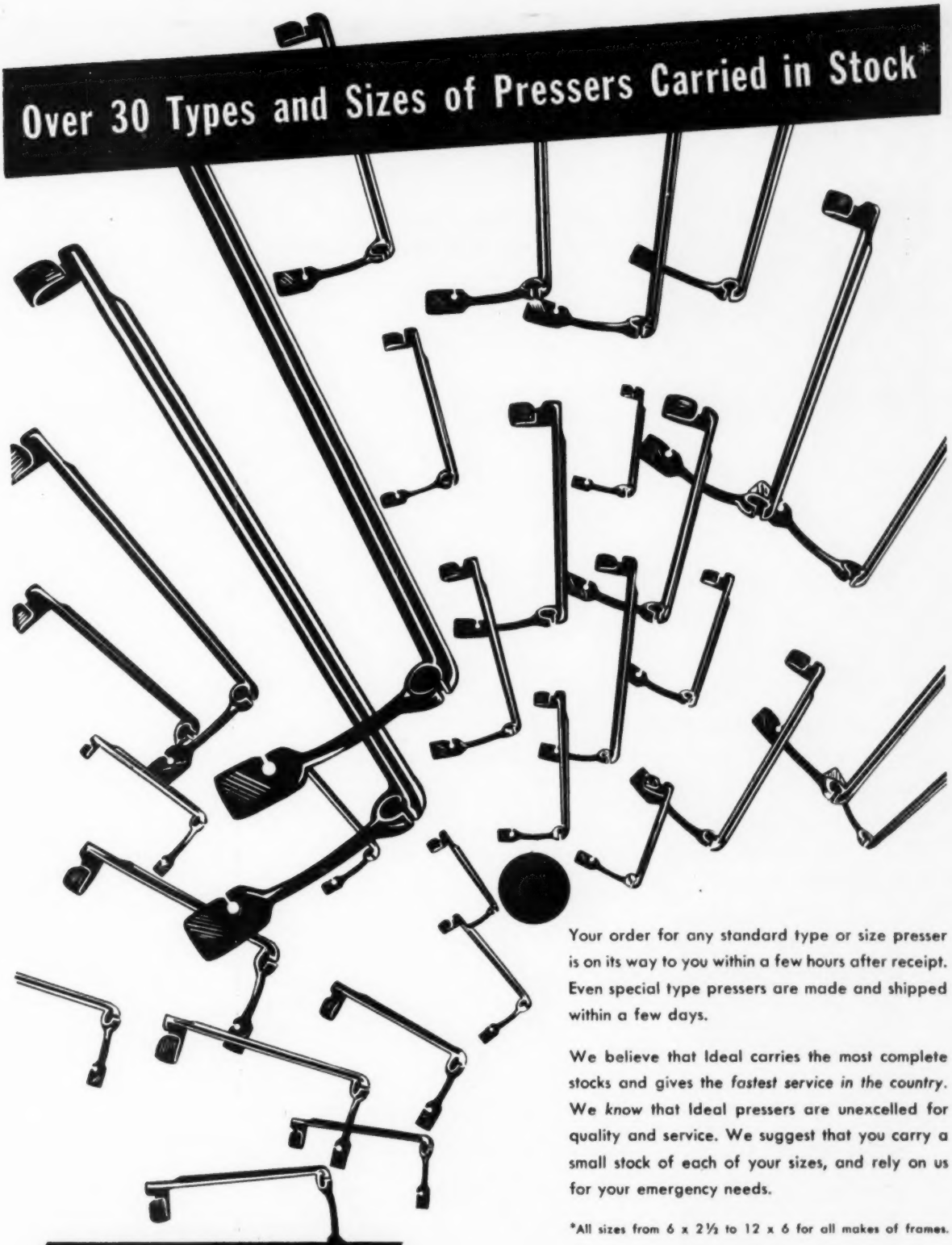
LARGE LAMP CATALOG; Light Div., General Electric Co., Nela Park, Cleveland 12, Ohio; paper, 72 pages, 70¢.

In a new format, this catalog replaces one published five years ago. Shown and described are types of GE lamps available for many important lighting services.

SOUTHERN INDUSTRIAL DIRECTORY, 2nd Annual Edition; Southern Association of Science and Industry, Inc., 5009 Peachtree Road, Atlanta, Ga.; paper, 84 pages.

This new comprehensive survey of Southern industry lists some 12,500 manufacturers employing 50 or more workers. For mills in the South wishing to have a list of local sources of supplies of all types, this booklet is good.

Over 30 Types and Sizes of Pressers Carried in Stock*



Your order for any standard type or size presser is on its way to you within a few hours after receipt. Even special type pressers are made and shipped within a few days.

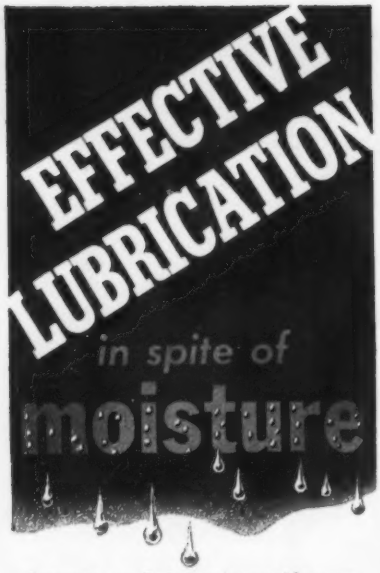
We believe that Ideal carries the most complete stocks and gives the *fastest service in the country*. We *know* that Ideal pressers are unexcelled for quality and service. We suggest that you carry a small stock of each of your sizes, and rely on us for your emergency needs.

*All sizes from 6 x 2½ to 12 x 6 for all makes of frames.

Ideal Machine Shops, Inc.

Bessemer City, N. C.

29th Year of Continuous Service to Textile Mills



LUBRIPLATE Lubricants provide superior lubrication even in the presence of moisture and steam. They permit high speed operation, have exceedingly long life and do not break down. There is a LUBRIPLATE Lubricant, ranging from the lightest oils to the heaviest greases, to meet every requirement of the textile industry.

For nearest LUBRIPLATE distributor, see Classified Telephone Directory. Send for free 56-page "LUBRIPLATE DATA BOOK"... a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

Mill Maintenance

Control Twister-Belt Wear And Uneven Spindle Speeds

The two major causes of twister-belt slippage and uneven spindle speeds are excess applications of belt dressing and the presence of oil on the belts. Both causes lead to belt wear.

Excess Belt Dressing Results in Uneven Twist

The endless fabric belts commonly used on twisting equipment contain a natural or synthetic-rubber compound in their structure. The manufacturers of these belts stress that belt dressing should not be used.

Some belt dressings affect the natural rubber in belts and cause deterioration of the belt.

Dressings used to extremes on ply belts often cause ply separation. The dressings also tend to accumulate in lumps on the belts, spindle whorls, and pulleys. These accumulations concentrate tension in local spots and lead to an early breakdown in the belt fibers.

Another disadvantage of belt dressings accumulated in local spots is that lumps on the belts cause spindle vibration and uneven spindle speeds. The spindles bounce over the high spots—a condition that causes uneven twist in the yarns.

Excess Oil on Belts Reduces Spindle Speed

The presence of oil on any belt is detrimental either to the belt itself or to its efficiency. Oil causes natural rubber to swell and gradually rot. It weakens the belt structure so that the belt cannot stand up under load conditions.

When a belt made of natural rubber becomes saturated with oil, it is practically impossible to clean it sufficiently to stop the oil's deteriorating effect.

The life of belts made with a synthetic-rubber compound is not greatly affected by oil, but belts do become slippery as a result of oil deposits.

If oil is present on the surface of either natural- or synthetic-rubber composition belts, the belts' coefficient of friction is reduced and belt slippage results. A drop in spindle speed is sure to follow.

Clean Twister Belts To Prevent Excess Wear

A twister belt should be cleaned as often as oil appears on its surface. Dirt and lint should also be cleaned off the belts as often as they accumulate because they will reduce the belt's friction against the driving pulley.

The cleaning cycle will vary from mill to mill, depending on lint conditions and the care given to oiling in each individual mill. A belt saturated with oil will pick up lint faster and need more frequent cleaning than one that is free from oil.

However, since promiscuous cleaning of belts is not desirable, oiling schedules should be set up to prevent oil from getting on the belts.

Twister belts can be cleaned with a dry cloth or one saturated with a cleaning solution. The cloth should be held against the belt while it is rotated by hand, and both sides of the belt should be cleaned.

Carbon tetrachloride is the most widely recommended cleaning solution. In some cases, it may be necessary to use a stiff-bristled brush to remove dirt and lint that have hardened on the belt. When a brush is used, care should be taken to prevent damage to the belt laps.

Soap and water can be used on belts that are long enough to permit shrinkage of the belt fabric.

To Make Belts Last, Reduce Excess Tension

Belt tension should be watched carefully because excess tension will do more to destroy a belt than good care in other ways can overcome. The take-up mechanisms on twisters should be adjusted periodically.

When a new belt is installed, the take-up mechanisms should be relaxed enough to allow the belt to slip on the pulleys freely.

A great problem in twister-belt maintenance is that of replacing belts before failure and yet not replacing them while they are still serviceable. A record of the installation date and periodic inspections will yield some information in regard to a belt's effective service life.

Lap failures, cross cracking, and ply separation serve as indications that the belt is nearing the end of its service life; but these indications do not necessarily mean that the life of the belt has terminated at that point. Of course, if the condition reaches a point where excessive spindle vibration occurs, the belt should be replaced.

Since wear appears gradually on a belt, it should not fail abruptly if it is inspected frequently—*Universal Winding Co.*

ROLLWAY Bronze-Retainer Roller Bearings

From 30″ O.D. to 3″ O.D.!

Regardless of size—regardless of type, radial or thrust—Rollway Roller Bearings roll right because they're made *right*. Net result of Rollway's precision "right angle design" is longer bearing service—under heavier loads—with lower maintenance cost.

RIGHT ANGLE Roller ends, precisely square to avoid end-rub, oscillation and side-shock.
RIGHT ANGLE Bearing surfaces with parallelism that results in unwavering right-line rolling.
RIGHT ANGLE Separator slots accurately machined to prevent roller skew, slide and uneven wear.

• Our complete engineering and metallurgical services will gladly work with you on your problems. Simply write or wire any sales office. No cost. No obligation. Rollway Bearing Co., Inc., Syracuse 4, N. Y.

Rollway Bearing replacements are available through authorized bearing distributors in principal cities. Consult your classified 'phone directory.

SALES OFFICES

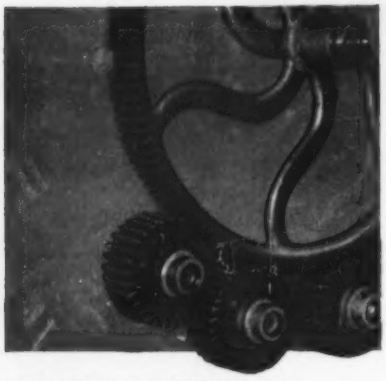
Syracuse Cleveland Houston Boston Philadelphia Chicago
Pittsburgh Detroit Los Angeles Toronto Milwaukee

ROLLWAY® BEARINGS

Complete Line of Radial and Thrust Cylindrical Roller Bearings

. . . From SPARTANBURG, S. C.

CDF TEXTILE NEWS



CELORON GEARS

. . . reduce wear on larger, more expensive gear in this textile printing machine. Prior to the use of Celoron, metal gears had to be replaced after one to two months' operations. But, since installing nine Celoron Gears over a year ago, there has been no wear on the main gear, no replacement of the Celoron Gears. C-D-F Celoron has high impact strength, excellent resistance to heat, oil, and water. For gears that are silent in operation . . . with uniform strength in every tooth . . . get C-D-F Celoron. *Ask your gear cutter for Celoron . . . always in stock at C-D-F Spartanburg, S. C.!*

CELORON POT-EYE

Here's a low-cost molded product made from C-D-F Celoron. This pot-eye is extremely smooth and strong . . . resists wear, never corrodes. Has excellent resistance to high heat and moisture. Thousands of similar, low-cost parts can be produced by C-D-F . . . who has the know-how, the equipment to mold and machine plastics for any use.

Write now for C-D-F Celoron catalog with specifications and horsepower ratings.

ALL PRODUCTS OF

Continental-Diamond Fibre Company

NEWARK 55, DELAWARE

. . . with Textile Headquarters at 834 Hayne Street, Spartanburg, South Carolina.

Call Spartanburg 3-6397 for DILECTO and DIAMOND FIBRE materials handling equipment . . . trucks, boxes . . . loom parts . . . top-speed shipments of CELORON silent gear blanks . . . friendly service from your C-D-F sales engineer.

News OF THE MONTH

CENTRALIZED SYNTHETICS LAB

Some type of central authority or location for pooling the technological information becoming increasingly available on man-made fibers and fabrics was urged at last month's meeting of the American Association for Textile Technology by Arthur Spiro, assistant vice president of Robbins Mills, Inc. As the production capacity of the newer synthetic fibers is approaching 100-million lbs. a year, according to Mr. Spiro, something better than the present promotional and advertising claims of individual manufacturers is now needed. The speaker suggested that the recently formed Rayon Information Center in New York might be the body to do the job.

MECHANICAL WEAR TESTS CONDEMNED

The wear life of a carpet fabric in actual use depends on so many variables that results obtained by today's wear-testing machines are meaningless with respect to showing the actual wear life of a carpet on the floor, the Carpet Institute technical committee claims. Since conditions of service are unpredictable, wear-testing a small number of samples in the laboratory does not give dependable results. The institute therefore does not recommend the use of such results in competitive purchasing or selling of pile floor coverings.

WOOLEN WAGE CUT DENIED

An impartial arbitrator of the Massachusetts Dept. of Labor and Industries has denied the American Woolen Co.'s request for a 31¢-an-hour general wage reduction for 16,000 CIO textile workers—the majority of them New Englanders—in seven Eastern states. The decision by Raymond E. O'Connell was called "ridiculous" by Francis W. White, president of American Woolen, which had sought the 20% slash on the basis of differences in production cost between it and its competitors, chiefly those in the South.

FLIP-CLOSE POLYETHLYENE BAG

CLOSURE OF THE BAG is made in two motions. First the thumbs are inserted under the flap. Then a quick flip of the wrist completes the closing up in an elapsed time of one second. Bemis Bro. Bag Co., St. Louis, Mo., developed the new packaging-and-display product.

75-GAUGE-HOSIERY PRODUCTION

A 75-gauge women's full-fashioned hosiery machine has gone into production at Dexdale Hosiery Co., Lansdale, Pa. The machine is patented and manufactured by Wildman Mfg. Co., Norristown, Pa., and, like other Wildman machines, is a small-section unit. L. C. Schierenbeck, president of Dexdale, sees 90-gauge machines a possibility some day but doesn't think such a machine could be made and kept running without extreme difficulty.

COTTON-PROCESSING CONFERENCES

Ten American cotton-textile scientists and technologists conferred last month with representatives of the European textile industry on methods of improving the processing of American-grown cotton. Discussed with the Europeans were the improvements in cotton-fiber properties and the latest technical developments with cotton in the United States; and from the overseas point of view, how American cotton could be further improved to meet the requirements of foreign spinning mills. Meetings were held in Manchester, England; Gothenburg, Sweden; Frankfurt, Germany; Zurich, Switzerland; and Paris, France.

Handclasp of a friend-in-need

There's confidence in the very "feel" of the world famous C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers. The quick-acting "Squeez-Grip" fits your hand naturally like a handclasp ... hangs right ... carries right ... works right. You're in complete command of the situation instantly ... no fumbling ... no fatigue.

From the non-conducting, shatterproof discharge horn to the high strength, durably finished cylinder, you get top quality construction that results in a lifetime of satisfactory service. Because of the very few working parts and corrosion resistant materials throughout, the total cost to you over the years is less than other initially lower priced makes ... fire after fire, recharge after recharge, without trouble.

It's not hard to see, when you fully compare and try, why C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers are your best buy for killing flammable liquid and electrical fires, as well as some surface fires involving ordinary combustible materials. Sizes range all the way from 2½ to 100 pounds capacity ... all fully approved by the Underwriters' Laboratories, Inc., Factory Mutual Laboratories, Armed Forces and Government Bureaus.

With C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers the penetrating carbon dioxide is a clean, dry, non-damaging, non-conducting, inert gas ... smothers fire instantly, leaves no after fire mess ... harmless to equipment, materials and finishes ... even food is still perfectly edible.

Act now for complete free information on these first-rate, sure-acting fire extinguishers. Remember fire doesn't wait ... get the facts today!

C-O-TWO

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
Built-In Smoke and Heat Fire Detecting Systems

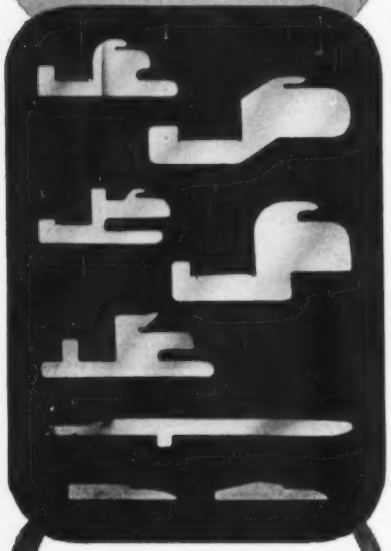
C-O-TWO FIRE EQUIPMENT COMPANY
NEWARK 1 • NEW JERSEY

C-O-TWO FIRE EQUIPMENT OF CANADA, LTD. • TORONTO 8 • ONTARIO

Sales and Service in the Principal Cities of United States and Canada

AFFILIATED WITH PYRENE MANUFACTURING COMPANY

DEPEND ON
IVES
FOR LONGER WEARING
SMOOTHER
SINKERS
for Knitting
the finest fabrics



IN ADDITION TO
Sliders; Sinkers; Jacks; Guides; Sley, Looper and Transfer Points . . . we *also manufacture* all known types of Spring Beard Needles for circular, full-fashioned and tricot knitting machines.

Complete line, all gauges and styles of Needles, Guides, Sinkers and Sley Points for Reiner, Avisco and Whitin Tricot machines. Also equipped for complete casting and squaring service for Tricot machines.

THE LOYAL T.
IVES
COMPANY, INC.
Established 1872
NEW BRUNSWICK, N. J.

NEWS *of the Month*

POLYESTER COMPOUND IS VERSATILE

Details on polyethylene terephthalate, a chemical compound that can be made in the form of a textile fiber (Dacron), a thin transparent film for such uses as electrical insulation and lightweight windows (Mylar), and a base for photographic film, were recently revealed by Dr. Emmette F. Izard, Du Pont research chemist, at an American Chemical Society meeting in Buffalo, N. Y. Mylar polyester film has high tensile and impact strength and resistance to flexing and is only slightly affected by extreme heat and cold.

COLUMBIA TEXTILE DEGREE

Columbia University in New York is continuing its exploration of the textile field with a view toward establishing a degree course in textiles. As soon as plans are formulated, according to Louis M. Hacker, dean of the School of General Studies, the university will take steps to make it possible for persons in the industry around New York to pursue technical and related studies in textiles under the university's direction.

LOWELL TECHNOLOGICAL INSTITUTE

On May 25 Governor Herter of Massachusetts signed the bill that changed the name of Lowell Textile Institute to Lowell Technological Institute of Massachusetts. The new name received favorable votes from a large majority of the institute's trustees, alumni, faculty, and undergraduates when they were polled several months ago. Leather and paper courses are being taught at the school now, and electronics and plastics departments are planned for the near future. Textile courses have been regrouped under four divisions: chemistry, engineering, general studies, and textile manufacturing.

WOOL-ASSOCIATION FIBER FORUM

Man-made fibers have important contributions to make in the manufacture of woolen and worsted cloths, the National Association of Wool Manufacturers was told in an industry-wide fiber symposium held at its recent 88th annual meeting in New York. Blended fabrics produced by the country's woolen and worsted

Textile Calendar

ASTM, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., June 29 to July 3.

Mass. Institute of Technology, summer research course, MIT, Cambridge, Mass., July 6 to 31.

Gordon Research Conference on Textiles, Colby Junior College, New London, N. H., July 13 to 17.

U. S. Testing Co., summer refresher course in textiles and testing, Hoboken, N. J., July 27 to Aug. 14.

AATT, monthly meeting, Builders Club, New York, Sept. 2.

Fiber Society, fall meeting, LTI, Lowell, Mass., Sept. 10 and 11.

AATCC, Phila. Sect., Kugler's Restaurant, Philadelphia, Pa., Sept. 11.

AATCC, Piedmont Sect., Hotel Charlotte, Charlotte, N. C., Sept. 12.

International Fair of Ghent, Palais des Floralies, Ghent, Belgium, Sept. 12 to 27.

AATCC, national convention, Conrad Hilton Hotel, Chicago, Ill., Sept. 17 to 19.

NACM, 99th annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H., Sept. 24 and 25.

AATCC, Western New England Sect., Rapp's Restaurant, Shelton, Conn., Oct. 2.

AATT, monthly meeting, Builders Club, New York, Oct. 7.

Packaging Institute, annual forum, Hotel Statler, New York, Oct. 12 to 14.

Textile Machinery and Accessories Exhibition, Belle Vue, Manchester, England, October 14 to 24.

North Carolina Textile Mfrs. Assn., annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 15 and 16.

AATCC, Phila. Sect., Kugler's Restaurant, Philadelphia, Pa., Oct. 23.

AATCC, R. I. Sect., Providence Engineering Society, Providence, R. I., Oct. 23.

AATT, monthly meeting, Builders Club, New York, Nov. 4.

AATCC, Northern New England Sect., LTI, Lowell, Mass., Nov. 6.

AATCC, Western New England Sect., Rapp's Restaurant, Shelton, Conn., Nov. 6.

AATCC, Mid-West Sect., Hotel Bismarck, Chicago, Ill., Nov. 7.

TRI, annual meeting, Commodore Hotel, New York, Nov. 12 and 13.

AATT, monthly meeting, Builders Club, New York, Dec. 2.

AATCC, Northern New England Sect., Faculty House, MIT, Cambridge, Mass., Dec. 4.

AATCC, Phila. Sect., Kugler's Restaurant, Philadelphia, Pa., Dec. 4.

AATCC, R. I. Sect., annual meeting, Sheraton-Biltmore Hotel, Providence, R. I., Dec. 4.

AATCC, South Central Sect., Patten Hotel, Chattanooga, Tenn., Dec. 5.

AATCC, Western New England Sect., Rapp's Restaurant, Shelton, Conn., Dec. 11.

1954

AATCC, Phila. Sect., Kugler's Restaurant, Philadelphia, Pa., Jan. 15, 1954.

ACMI, annual meeting, Jung Hotel, New Orleans, La., April 22 to 24, 1954.

American Textile Machinery Exhibition, sponsored by American Textile Machinery Association, Atlantic City Auditorium, Atlantic City, N. J., April 26 to 30, 1954.

AATCC, national convention, Atlanta, Ga., Sept. 21 to 23, 1954.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 4 to 9, 1954.

PENFORD GUMS

(STARCH HYDROXYETHYLETHERS)

(U. S. PAT. NOS. 2,516,632; 2,516,633; 2,516,634)

★ ★ ★ ★ ★ ★ ★

Penford gums are proving their superiority in mill after mill for warp sizing of combed cotton, wool, viscose, acetate, hydrophobic synthetic fibers such as nylon, dacron, dynel, orlon, acrilan, and blends of natural and synthetic staple fibers.

★ ★ ★ ★

SIZING OF COMBED COTTON WARPS—Penford Gum 220 and 230 offer maximum weaving protection in high count combed yarn warps, impart the characteristic hand desired on loom finish combed fabrics, virtually eliminate problems of roll marks and hard size on the warps.

SIZING OF WORSTED WARPS—Penford Gums 260, 270, and 280 are demonstrating their superior fliming characteristics to provide a flexible sized worsted warp with excellent abrasion resistance for minimum shedding and maximum weaving efficiency.

SIZING OF SPUN VISCOSE, ACETATE AND BLEND WARPS—Penford Gums 230, 240, and 245 non-gelling property has virtually eliminated seconds due to "roll marks" and hard size. Their tough, elastic films provide maximum weaving protection in low humidities to produce quality fabrics with a bare minimum of "set marks." In desizing, enzymes attack Penford Gums much more readily than the usual starch base sizings which greatly facilitates their 100% removal in the normal routine finishing plant processing of spun rayons. In fact, the Penford Gum sizings are so readily removed that several plants are currently securing excellent results by simply giving a good scour to some of their fabrics without benefit of an enzyme treatment.

SIZING OF SPUN NYLON, DACRON, ORLON, DYNEL, AND ACRILAN WARPS—Penford Gums 260 and 270 strong adhesion and tough but flexible protective films are complemented by suitable adjuncts to provide an economical production mill size for the newer hydrophobic synthetic fibers such as Nylon, Dacron, Orlon, Dynel, and Acrilan with the elimination of clinging and fuzz balls in weaving.

PENICK & FORD, LTD.

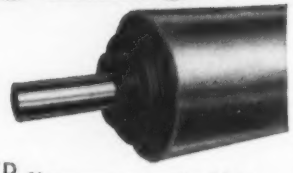
INCORPORATED

420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

806 Bona Allen Bldg., Atlanta, Ga. Cedar Rapids, Iowa

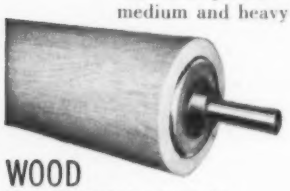
SHAF-TITE®

TEXTILE ROLLS

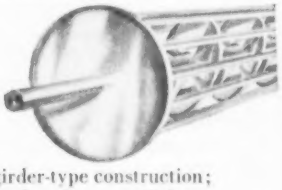


RUBBER Neoprene, natural rubber, Hycar rolls. Light and medium-duty carrier rolls and heavy-duty squeeze rolls.

METAL Steel, brass, aluminum, stainless steel and chromium-plated for light, medium and heavy duty.



WOOD
For all makes of textile washers and mangles: Self-Seal*, White Seal*, Anchor Seal* solid rock maple rolls. For fulling mills: wood lag rolls and wood lags. General purpose: Shaf-Tite, solid wood or kiln-dried wood carrier rolls.
*Trademark



REELS
Patented girder-type construction; stainless steel reels up to 20 feet in length for any make of machine. Round, hump, triangle, and oval.

FREE! Send for 64-page catalog. Permanent reference work for all rolls. Includes inquiry dimension sheets, care of wood and rubber rolls, and engineering data. RODNEY HUNT MACHINE CO., 54 Maple St., Orange, Mass., U.S.A.

RODNEY HUNT®

INDUSTRIAL ROLL DIVISION

Manufacturing Engineers Since 1840

NEWS *of the Month*

mills will make it possible for older-line manufacturers to capitalize on the easy-living qualities of fabrics in which the newer fibers are an integral part, in varying proportions as needed.

CORDUROY COUNCIL FORMED

A new trade organization, the Corduroy Council of America, has been opened at 15 E. 53rd St., New York. Producers of over 90% of the country's finished corduroy production have subscribed to a fund to carry out the objectives of the group: a greater use and acceptance of corduroy in all fields and in all seasons by the consumers of America.

NEW NATIONAL FEDERATION PRESIDENT

William N. Chace, vice president and director of Greenwood Mills, New York, is the new president of the National Federation of Textiles, succeeding the late Alexander F. Ix. Vice presidents elected for the new year are Andrew J. Sokol (J. P. Stevens), Edmon G. Luke (Textron), and R. Stewart Kilbourne (William Skinner & Sons). Irene Blunt was re-elected secretary-treasurer.

TEXTILE-DEAN GROUP EXPANDED

A new organization, The National Council for Textile Education, was formed recently at the three-day meeting of textile-school deans in Florida. The new group succeeds the National Council of Textile School Deans. President of the new group is Dr. G. Nathan Reed, LTI dean of faculty. Other officers elected were Dr. L. H. Hance (ITT vice president), vice president; Cleveland L. Adams (Alabama Polytechnic's Textile Technology School head), secretary; and Edward Pickard (Kent, Conn.), treasurer.

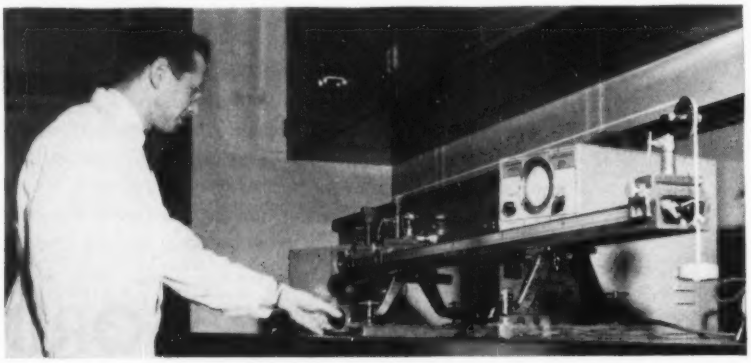
FOAM-RUBBER-BASED FABRIC

A method of applying foam rubber directly to fabric, including stretchable types, has been perfected by Fremont Rubber Co., Fremont, Ohio. No adhesives are used to bond the rubber to the cloth, but the foam rubber instead is "fused" to the fabric during manufacturing. Curved surfaces can thus be covered without danger of separation of rubber from fabric under everyday stresses and strains, it is reported.

Rubber from ☆ to ⅜ in. thick can be applied permanently.

NEW UNIVERSAL COTTON STANDARDS

Universal cotton standards for 1953 to 1956 were recently approved by delegates attending the 10th Universal Cotton Standards Conference in Washington. A total of 1,169 boxes of cotton was examined and approved during the three-day session. They will be the basis for international trade in upland cotton for the next three years. About 30 U.S. trade groups and cotton trade-association representatives from nine other countries took part in the conference.



FIBER-CHARACTERISTICS MEASURER

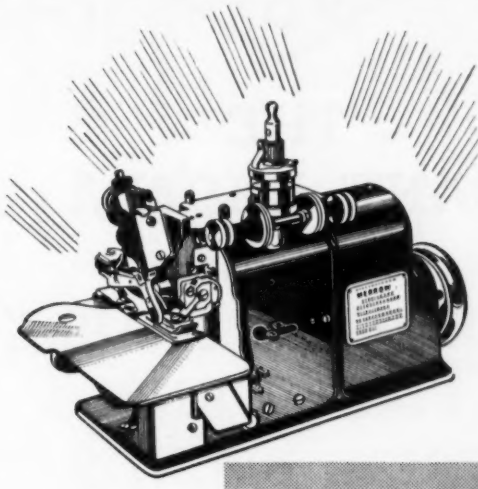
THIS TESTER, a sonic-modulus apparatus for the determination of fiber characteristics, is used in the Laundry and Textile-Research Department of Wyandotte Chemicals Corp., Wyandotte, Mich., to determine the length of a sound wave of known and variable frequency that is sent through a fiber or yarn under tension. A difference in wave length after treatment of the specimen in any way yields information as to just what change has taken place in the inner fiber structure.

Versatility

Merrow Class A Machines perform overseaming and trimming operations simultaneously. They form the one, two, or three-thread overseam or edge finish, or the three-thread tight needle thread seam.

These machines, used on most kinds of knitted and woven fabrics and plastics, are produced in many styles. By interchanging a few parts, each machine may be adapted to a great variety of operations on many different fabrics.

Smooth, high speed operation insures maximum production. Merrow quality and design minimizes "down time".



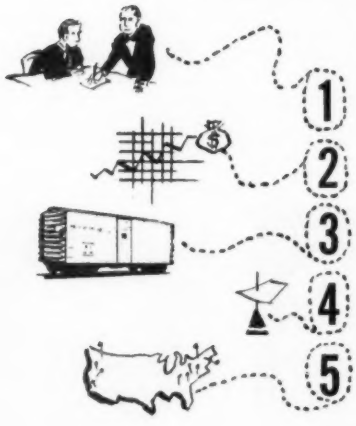
Write for brochures covering the Class A Machine. Free upon request.

TRADE MARK REG

The MERROW MACHINE COMPANY

2803 LAUREL STREET•HARTFORD•CONN.

want to save time and money on your textile shipments? ...then send this ad to your shipping department!



Here's why shipping via National Carloading Corporation is "The Best Way"...

OUR "OPERATION TEXTILE" IS CUSTOM-CUT FOR THE TEXTILE INDUSTRY. National people are trained in soft goods problems; they appreciate the time factor in production and sales, and have devised handling methods and procedures to give expedited textile service.

LOW RATES. National's rates are low because of the vast volume of textile tonnage shipped via National.

FAST THROUGH-CAR SERVICE DAILY. Textile shipments move on fast schedule from the Northeastern U.S. and the South to the West Coast and from the West Coast to points East of the Mississippi.

ONLY ONE BILL per shipment... saves you time, trouble, paperwork; makes tracing easy; reduces telephone overhead... only ONE CALL... to National.

COMPLETE COVERAGE VIA OUR STATION NETWORK. National stations are in or near all major textile production and sales centers... convenient door-to-door service!

MAKE NATIONAL CARLOADING *THE* ONE CARRIER OF ALL YOUR LONG-HAUL SHIPMENTS. IT'S "THE BEST WAY"!

NATIONAL "The Best Way" N

FMB NO. 388

National Carloading Corporation

Judson-Sheldon Division • Judson Freight Forwarding Division

Headquarters: 19 Rector Street, New York 6, N. Y.

Serving 30,000 communities through more than 150 stations in the U. S. and agents in principal foreign countries.

THE SANT' ANDREA SYSTEM FOR LONG STAPLE FIBERS AND THEIR BLENDS

Machines employed in this system have been given preference whenever quality is the decisive factor.

FOR ADEQUATE BLENDING:
The **SANT' ANDREA** Mixing Intersecting Gill Box, Model SLM

FOR CLEANING & SMOOTH SURFACE EFFECT:
The **SANT' ANDREA** PN and PNA Combs

FOR GILLING & REDUCING:
The **SANT' ANDREA** Intersecting Gill Box, Model SLOV and Model SLAOV

FOR LONG DRAFT ROVING with COMPLETE FIBER CONTROL:
The **SANT' ANDREA** Model BP Gill Flyer

FOR LONG DRAFT SPINNING:
The **SANT' ANDREA** Spinning Frames, Models FL/2, FL/3, FL/4

FOR DYEING OF DELICATE FIBERS:
The **SANT' ANDREA** Vigoureux Top Printing Machine

Thirty years experience in the processing of long staple fibers.

Illustrated catalogs, plant layouts, etc. upon request through our U.S.A. and Canadian Agents, Ernest L. Frankl Associates, 515 Madison Ave., New York 22, N. Y.

S.A. Officina Meccanica

SANT' ANDREA

NOVARA, ITALY

NEWS ABOUT Suppliers

EQUIPMENT SUPPLIERS

Acme Steel Co., Chicago, Ill., has appointed Marsh B. Hall chief engineer and Willard S. Collins assistant chief engineer of the Development and Research Engineering Dept. for the Archer Avenue (Chicago) Plant.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has re-elected W. A. Roberts, president, and all other directors of the company.

Alvey Conveyor Mfg. Co., New Orleans, La., has moved to new quarters at 816 Howard Ave.

Borg-Warner Corp., Chicago, Ill., has elected C. S. Davis, Jr., a member of the board of directors. Mr. Davis is president and general manager of the Norge Heat Div. The other members of the board were re-elected.

The Bristol Co., Waterbury, Conn., has appointed Sam E. Gewin district manager of the St. Louis office.

Central Scientific Co., Chicago, Ill., has named Russell L. Lawson, formerly vice president of the Utica Knitting Co., executive vice president.

Clark Equipment Co., Battle Creek, Mich., has elected Frank F. Kolbe, president of United Electric Coal Co., Chicago, Ill., to the board of directors. Clark acquired in another move all the capital stock of The Ross Carrier Co., Benton Harbor, Mich. Michigan Power Shovel Co., a subsidiary of Ross, was included in the transfer.

Collins Brothers Machine Co., Pawtucket, R. I., has taken over all the new and replacement parts for the banding machines, reels, skein winders, and spindles of Easton and Burnham Machine Co., Central Falls, R. I.

Container Corp. of America, Chicago, Ill., has announced the retirement of Ira C. Keller, executive vice president.

Dan M. Culp, Greensboro, N. C., has moved there from Paris, Greenville, S. C. In his new location Mr. Culp will still handle all Southern Shuttle products and Steel Heddle Mfg. Co.'s complete line.

The Diamond Chain Co., Inc., Indianapolis, Ind., has appointed Jack E. Cooper Southeast district manager with headquarters in Atlanta, Ga.

EDWARD T. TAWS has been elected president and director of H. Brinton Co., Philadelphia, Pa. He was formerly manager of Burlington Mills' ribbon division.

GORDON G. SPENCE has been made treasurer of Whitin Machine Works, Whitinsville, Mass., succeeding the late Edward S. Alden.

LUSTRA-GLUE

100% Pure EXTRACTED-BONE and HIDE Adhesives

Matched exactly to your specifications

CCI

PEARLS • GROUND • FLAKE

COLD WATER SOLUBLE
(Powdered)

CLEAR • UNIFORM

Write for Quotation and Folder

★

SINCE 1878 . . . Producers of High Quality Animal Glues

CONSOLIDATED CHEMICAL INDUSTRIES INC.

Lustra Adhesives Division

SAN FRANCISCO 4 111 Sutter Building	**NEW YORK 20** 630 Fifth Avenue	**CHICAGO 1** 221 N. LaSalle Street
LOS ANGELES 23 3832 East 26th Street	**WOBURN** Massachusetts	**HOUSTON 2** Mellie Esperson Building

3 Features designed for LOW COST DYEING

❶ *This Dyebox is Fully Enclosed*

— to keep heat and moisture where they belong, in the box; to save fuel, steam, water and dyestuffs; . . . to end dyehouse fog; to increase production per man hour; to give you better work.

❷ *This Dyebox is Stainless Steel*

. . . to clean in seconds with a quick rinse; . . . to eliminate boil outs; . . . to end discoloration of fabric; . . . to change from dark to light runs in a few seconds; . . . to give you more runs per day at lower cost.

❸ *This Dyebox is Blickman Built*

. . . to be as accessible as an open box with none of the disadvantages; . . . to give dyers every design feature for speedier loading, heating, lacing, unloading and changeover; . . . to assure trouble free operation for many years.

Write for bulletin 7034

S. BLICKMAN, INC. 407 GREGORY AVE. WEEHAWKEN, N. J.

Blickman Built

STAINLESS STEEL TEXTILE EQUIPMENT

Dye Boxes, Linings, Cylinders, Dry Cans, Hoods, Tanks

HAVE YOU MOVED?

If you have moved recently, or if you are planning to change your address, please let us know so copies of TEXTILE WORLD will continue to reach you promptly. Use this handy coupon today.

Please change the address of my TEXTILE WORLD subscription as noted below:

Name .....

OLD Address .....

City ..... State .....

NEW Address .....

City ..... Zone ..... State .....

New Company Connection .....

New Title or Position .....

MAIL TO: TEXTILE WORLD
Subscription Service
330 West 42nd Street
New York 36, N. Y.

 For more information, write direct or use Reader Service post card.

C.P.*

In Backing
- COTTON RUGS
- PILE FABRICS
- FLAT GOODS

C.P. LATEX COMPOUNDS
Can Give Your Products the "COMPETITIVE EDGE"

CUSTOM PROCESSED latex compounds can give you far greater control in backing operations. You'll save time, trouble . . . improve the uniformity of your products when latex compounds are specifically *custom processed* to meet the particular requirements of each job. Overall savings plus controlled quality will add up to a real "competitive edge" for your products.

Montgomery Brothers' proven laboratory methods assure superior latex compounds for each individual need. Let us use our facilities and experience to suggest the right latex compound . . . one that will improve the quality and lower the cost of your products. Call on us now!

***GET FREE DETAILS ON C. P.!**

Here are the facts on the control of latex compounds in backing processes. See how the use of "M.B." custom processed latex compounds can save you time, trouble and money while improving quality. Write today, for your free copy.

M.B. ADHESIVES

COMPLETE LINE OF LATEX COMPOUNDS FOR THE TEXTILE INDUSTRY

M.B. LATEX

MONTGOMERY BROS.

INCORPORATED—SINCE 1888
PENROSE & PACKER AVENUES
PHILADELPHIA 45, PA. DE 4-0418

News About **SUPPLIERS** (Continued)

Draper Corp., Hopedale, Mass., has elected Henry R. Billings 2nd to its board of directors. Mr. Billings is comptroller of the company.

Industrial Equipment Co., Chicago, Ill., has changed its name to Industrial Crane & Hoist Corp.

I P A Southern, Inc.—A new firm of textile machinery dealers, with headquarters in the South Carolina National Bank Building, Greenville, S. C., has been formed. The company, affiliated with Industrial Products of America, Paterson, N. J., will buy and sell used textile machinery. The firm will also act as Southern representative for a number of dyeing, printing, and finishing equipment manufacturers. G. H. Hansen, vice president of I P A, will be president of I P A Southern.

Minneapolis-Honeywell Regulator Co., Micro Div., Freeport, Ill., will open a new factory at Warren, Ill., to expand production. The new plant, a 10,000-sq. ft. building, will become the division's fourth manufacturing operation.

Reliance Electric & Engineering Co., Cleveland, Ohio, has established a new branch office in Baltimore, Md. The office is staffed by A. C. Schettler and W. C. Mitchell, sales engineers. Thomas D. Jackson has been appointed to the Atlanta, Ga., sales application engineering staff.

Standard Mill Supply Co., Frovidence, R. I., has announced that all business pertaining to the Export Div. is now being conducted at its general offices in Pawtucket, R. I. The office and plant at Charlotte, N. C., will be moved to the Providence location, effective July 15.

Sterling Electric Motors, Inc., Los Angeles, Calif. has made Kenneth J. Plants New York district manager. John R. Howell and Robert T. Dudley have been made regional sales managers with headquarters in Los Angeles and Chicago respectively.

Stewart-Warner Corp., Chicago, Ill., has re-elected all directors of the corporation.

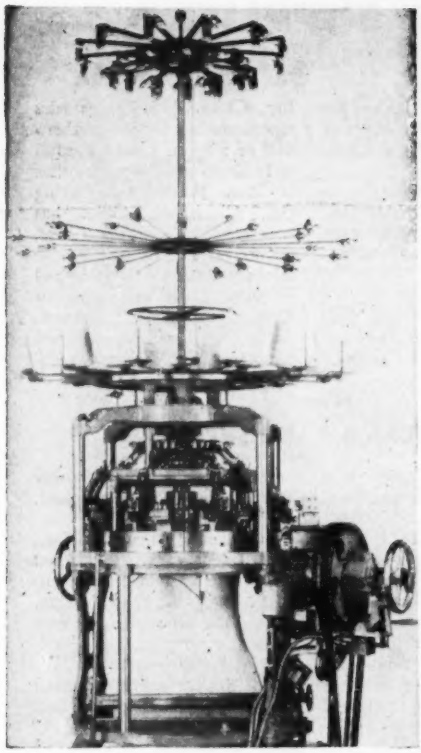
G. Stibbe & Co. Ltd., Leicester, England, has appointed Southern Mill Equipment Co. and Morris Speizman Co., Inc., as exclusive distributors in the U. S. & Canada of the complete line of Stibbe knitting machines.

Taco-West Corp., Chicago, Ill., recently announced change of its company name to West Instrument Corp.

The Twin Textile Ring Co., 13231 Euclid Ave., East Cleveland 12, Ohio, which has been organized to produce a twister ring adaptable for handling all textile fibers, is in production. The ring, covered by patents, was developed by James R. Mulholland, president of the company. Robert J. Mulholland is vice-president in charge of sales. Sales agencies are being set up in textile areas and foreign sales facilities have been arranged.

United States Testing Co.,

HERBERT C. PIEL (left) and DONALD D. PASCAL (right) both vice presidents of National Starch Products, Inc., New York, N. Y., have been elected to the board of directors.



STANDARD EQUIPMENT
ORDNANCE GAUGE MACHINES

IT PAYS TO USE WESCO

ELECTRIC STOP-MOTIONS

FOR OUTERWEAR • UNDERWEAR • HOSIERY
STANDARD THE WORLD OVER

WESCO stop motions were especially designed and built to give perfect protection against knitting breakdowns, broken needles, unnecessary press-offs, smashes and wasted yarn. Always specify WESCO for trouble-free production when ordering new machines.

LOOK FOR "WESCO" ON ALL THESE KNITTING MACHINES:

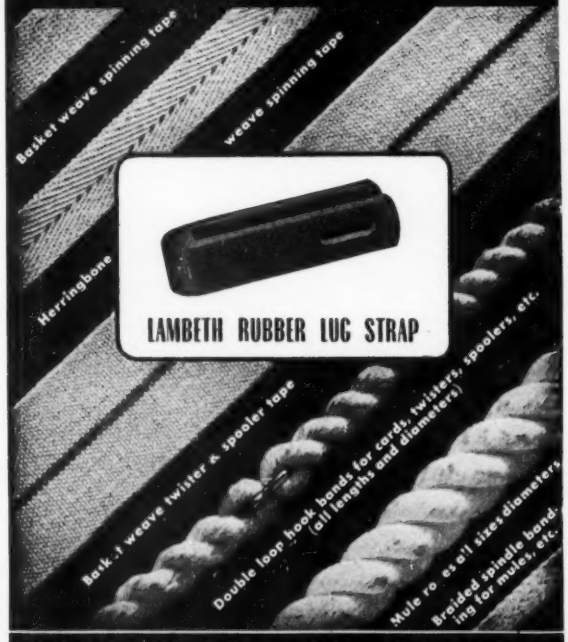
H. Brinton Co.
Charles Cooper Co.
Crane Manufacturing Co.
Edmos Products Corp.
Fidelity Mach. Co., Inc.
Jacquard Knitting Mach. Co.
Lamb Knitting Machine Co.
Leighton Machine Co.
Ordnance Gauge Co.
Scott & Williams, Inc.
Stafford & Holt, Inc.
Supreme Knitting Mach. Co.
Wildman Mfg. Co.

STOP-MOTION DEVICES CORP.

1471-77 Fulton St. Brooklyn 16, N. Y.

Another of a Series of Knitting Machine Builders, Others to follow

LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
Herringbone
LAMBETH RUBBER LUG STRAP
Bask t weave twister a spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ro es a'l sizes diameters
Braided spindle band ing for mules, etc.

LAMBETH ROPE CORPORATION
Plants at New Bedford, Mass. and Kings Mountain, N. C.

EMPIRE
REG. U. S. PAT. OFF.
TEXTILE MILL CRAYONS

IMPORTANT MEMBERS OF YOUR PRODUCTION TEAM . . .

Made by experts . . . after years of careful research . . . EMPIRE TEXTILE MILL CRAYONS meet the industry's most exacting requirements for textile marking and identification.

Every year, millions of these top-quality marking crayons join the production teams of textile mills across the nation.

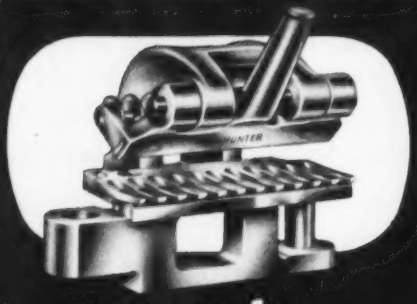
Marking *counts* in efficient production. Count on EMPIRE TEXTILE MILL CRAYONS . . . First choice of textile experts everywhere! *Free marking guide gladly sent. Dept. T-8*

JUNIOR EMPIRE

EMPIRE TEXTILE MILL CRAYON

a "The American Crayon Company Sandusky, Ohio New York

NOW THIS UNIVERSAL TENTER CLIP



serves for regular feed or overfeed without pins

Get the facts about the advanced new Universal Tenter Clip*—developed by Hunter, made and sold in United States and Canada exclusively by Marshall and Williams.

ADVANTAGES: Operates on any standard tenter frame as a regular clip or will accommodate overfeeding if frame is equipped with Hunter overfeed device. Can be instantly changed from regular feed to overfeed without shut-down of tenter frame. No changing of chain required—no alteration of machine necessary. Comb-like plate on clip gives uniform and complete drying of selvage.

The cost of this clip and overfeed equipment is very reasonable. Doing away with multiple tentering units reduces floor space requirement by one-half—with all resultant savings. Operating speeds are the same as with conventional clips. Uniform and accurate overfeeding up to 20% easily obtainable.

Other M & W Products

High Speed Tenter Frame & Complete Line of Tenter Clips

Tenterettes — short tenters (30", 80" and 100" long) built to any maximum width, with straight or hinged rails

Swing Plaiters — anti-friction bearings throughout, designed for easy cloth alignment

Let-Off Stands — movable, with casters, or fixed base, swiveling for easy cloth alignment

Batchers — constant tension or tensionless

Send for complete data today — without obligation

*Dungler System

M & W

MARSHALL and WILLIAMS CORPORATION

PROVIDENCE, R. I. • GREENVILLE, S. C. • NEW YORK, N. Y.

News About **SUPPLIERS** (Continued)

Inc., Hoboken, N. J., has appointed W. J. Westaway Co. Ltd., Hamilton, Ont., as Canadian agents.

U. S. Textile Machine Co., Scranton, Pa., has appointed Fred Nave as its Southern representative.

Warren Steam Pump Co., Inc., Warren, Mass., has appointed Meters and Controls, Inc., Chicago 10, Ill., as sales representatives for the northern half of Illinois, Lake Counties of Indiana, and River Counties of Iowa. Wilcox Engineering Co., Cincinnati, Ohio, has been made area representative. Glenn H. Collins will handle sales and service in western and southern Ohio and most of Kentucky. William J. Inwood, Battle Creek, will be sales representative for Michigan.

CHEMICAL & YARN SUPPLIERS

Allied Chemical & Dye Corp., Solvay Process Div., New York, N. Y., has promoted four sales employees: E. R. Oswald has been made manager of the Export Dept.; Raymond B. Anthony, assistant manager of the Special Alkalies Section; F. P. Boehm, assistant manager, Ammonium & Potassium Products Section; Robert L. Reynolds, technical assistant to the manager of the Special Alkalies Section.

American Cyanamid Co., New York, N. Y., has announced that Albert Scharwachter has been elected vice president of Arizona Chemical Co. Arizona chemical is owned jointly by International Paper Co. and American Cyanamid Co.

Arnold, Hoffman & Co., Inc., New York, N. Y., has named G. Allan Dickson a member of its sales group. Lowell Shive has also joined the firm as a member of the sales staff.

Buffalo Electro-Chemical Co., Inc., Buffalo, N. Y., has appointed Dr. H. O. Kauffman, formerly research director, to technical director.

Celanese Corp. of America, New York, N. Y., has announced that Dr. R. S. Dicks, formerly senior process engineer for Shell Oil Co., has joined the Textile Div. E. H. Bogardus, sales manager of rayon yarn for the Textile Div., has retired after 27 years' service with the company and Tubize Rayon Corp.

The Chemstrand Corp., Decatur, Ala., has named Robert H. Born to the sales department in New York City. Raymond M. Albert has been promoted to supervisor of solvent manufacturing and recovery operations at the Acrilan plant.

Courtaulds (Alabama) Inc., New York, N. Y., has named Richard S. Thomas plant manager of its plant at Le Moyne, Ala. Mr. Thomas has been elected operations vice president of the corporation. R. W. Leins, project engineer during construction of the plant, has been made chief engineer.

Dobeckmun Co., Cleveland, Ohio, has opened a Southern district sales office for Lurex yarns in the Haas-Howell Building, Atlanta, Ga. The office will serve Georgia, North and South Carolina, Alabama, and Tennessee.

General Dyestuff Corp., New York, N. Y., has made Harold Halvorsen head of the Mixed Fiber Dept. Richard Hall has been appointed head of the Naphthol Dept. Both men will serve under Lawrence Thompson, technical manager of the Cotton Section.

Hercules Powder Co., Wil-

CHARLES C. SWITZER has been made vice president in charge of textile sales for the Keever Starch Co., Columbus, Ohio.

Keep your BOBBINS in TOP CONDITION at LOWER COST with the

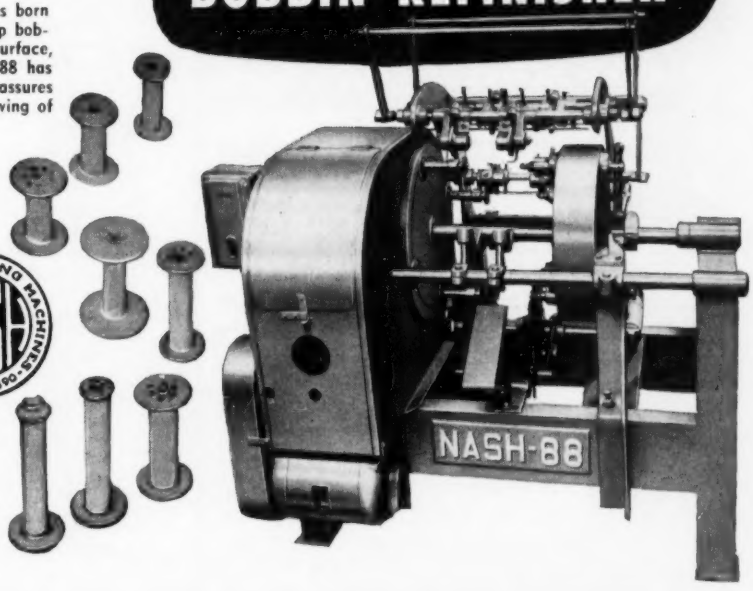
No. 88 NASH Automatic BOBBIN REFINISHER

• This time-tested machine was born of a need . . . designed to keep bobbins in perfect condition with a highly polished surface, and assure a *better run-off of yarn.* The Nash 88 has won highest praise from users everywhere. It assures uniform, smooth-surface reconditionnig with a saving of labor cost.

HERE ARE SOME OF ITS FEATURES:

- Handles most types of flanged bobbins . . . easily adjusted to range of shapes and sizes.
- Separate burnishing assembly produces a highly-polished surface of uniform quality.
- Abrasive action takes place on barrel portion inside flanges and top radius of flanges.
- Its high speed (10 bobbins per minute) requires only minimum set-up time.
- Nash quality means fine performance and low maintenance cost.

Nash also builds Automatic Bobbin Sanders, Automatic Quill Polishers, Automatic Round Stock Sanders, and Special-Purpose Machinery.



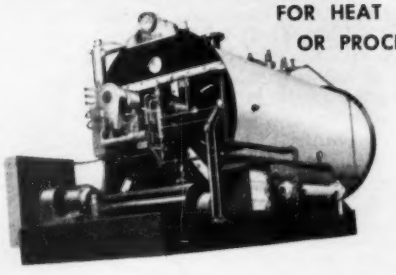
Write for Complete Descriptive Literature

J. M. NASH COMPANY

Dept. 88, 2364 No. 30th Street
Milwaukee 10, Wisconsin

STEAM

FOR HEAT OR PROCESS



A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability

Superior Steam Generators are manulactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 518

SUPERIOR COMBUSTION INDUSTRIES, Inc.

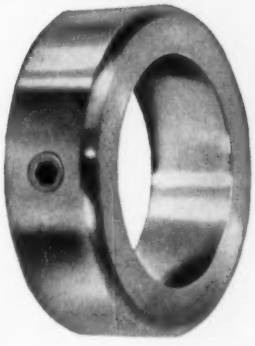
Factory: Emmaus, Pa.

Exec. Offices: Times Bldg, Times Sq., New York N. Y.

SUPERIOR STEAM GENERATORS

standardize on standard

HALLOWELL SOLID STEEL COLLARS



Buy standardized, precision-made HALLOWELL Steel Collars from your distributor's stocks. You'll save time and money by picking up the telephone and placing your order. Deliveries are prompt.

42 stock sizes—for shafts from 3/16" to 3" diameter, inclusive—all positively positioned on the shafts by UNBRAKO Self-Locking Socket Set Screws, the screws that won't work loose.

Write for literature, and the name and address of your nearest HALLOWELL industrial distributor. SPS, Jenkintown 35, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

HALLOWELL POWER TRANSMISSION DIVISION

SPS

JENKINTOWN PENNSYLVANIA

LIFTS DIRT FROM FLOORS...
HOLDS IT OFF...

CINDET

100% ACTIVE 100% SAFE!

NEW LIQUID SYNTHETIC DETERGENT

Whether your water supply is HARD or SOFT, cleaning with CINDET means *no curds, no dingy film!* CINDET is *surface-active*—it works on the principle of LIFTING floor dirt, grease and old water-emulsion wax from floors and HOLDING it in suspension in a fluffy mass of energetically-cleaning SUDS. *Dirt is not re-deposited*—rinses off easily.

Dilute a little CINDET in HARD or SOFT water . . . apply with clean mop . . . let foamy, clean-looking suds stand 5 or 10 minutes . . . scrub only if necessary, and rinse thoroughly. The result: AMAZINGLY BRIGHT, CLEAN FLOORING.

Safe for *all* flooring—and wonderful for removing stubborn rubber marks. Also excellent for walls, for shampooing rugs and upholstery, for washing dishes by hand.

DOLGE backs up CINDET with a complete-satisfaction-or-deal-is-off GUARANTEE! Write for literature; have your DOLGE SERVICE MAN demonstrate CINDET on *your dirtiest, greasiest flooring.*

...THE SUDS DO THE WORK!

FOR FREE SANITARY SURVEY of your premises consult your DOLGE SERVICE MAN

dependable DOLGE

WESTPORT, CONNECTICUT

News About SUPPLIERS (Continued)

mington, Del., has named Albert E. Forster president. He has also been elected chairman of the executive committee. He succeeds Charles A. Higgins, former president and chairman of the board, who resigned recently as president but remains as chairman. E. Langford Jones has been made sales manager of the Virginia Cellulose Dept. He will be in charge of the sale of chemical cotton (bleached cotton linters).

The Hilton-Davis Chemical Co. Div., Sterling Drug, Inc., Cincinnati, Ohio, has named John J. Kelleher to its technical sales staff to represent the company to the textile trade.

Libbey - Owens - Ford Glass Co., Toledo, Ohio, has named Thomas L. Carver, of the Fiber Glass Div. sales staff, New York district manager to succeed A. K. McClay, resigned. Distribution of superfine fiber glass in the Parkersburg, W. Va., area will be handled by Parkersburg Ice & Fuel Co.

The Metlon Corp., New York, N. Y., has moved to new quarters in the same building, 432 Fourth Avenue.

Monsanto Chemical Co., St. Louis, Mo., has made plans for construction of multimillion-dollar facilities for the production of isocyanates. Location of the new plant has not been announced.

Pennsylvania Salt Mfg. Co., Philadelphia, Pa., has named Albert H. Clem general sales manager to succeed the late Russell S. Roeller.

Pittsburgh Coke & Chemical Co., Pittsburgh, Pa., has opened a dyestuffs sales office to serve the Philadelphia territory, which includes Pennsylvania, New Jersey, Delaware, Maryland, and Virginia. Address of the new office will be Room 203, 29 Bala Avenue, Bala-Cynwyd, Pa. Sales supervisor is Boyce C. Bond. The appointment of Stanley W. Freeman as manager of the Fine Chemical Div. office in Providence, R. I., and sales representative in the New England territory has also been announced.

OTHER SERVICES

Interchemical Corp., New York, N. Y., has established scholarships at six liberal arts and technical colleges. When in full operation, scholarship funds of $1,000 will be provided at the colleges for awards to science students in their junior and senior years. The program will begin during the 1953-54 academic year with funds of $500 for awards to juniors.

Lowell Technological Institute, Lowell, Mass., has announced that George O. Langlais has joined the Research Foundation's staff as a research associate.

Werner Textile Consultants, New York, N. Y., has opened new Southern headquarters in Atlanta, Ga. J. Paul Mills is in charge of all Southern operations.

V. P. RUMELY (left) has been elected senior vice president, and L. N. BLUGERMAN (right) vice president of Crane Co., Chicago, Ill.

Complete FACTORING Service

Next door to every MILL in the SOUTH

Factoring Division

TRUST COMPANY OF GEORGIA

ATLANTA, GEORGIA

MEMBER: FEDERAL RESERVE SYSTEM • FEDERAL DEPOSIT INSURANCE CORPORATION

LEVEL THE LOAD

with a TWIN DISC

HYDRO-SHEAVE®

Do you know the simple and inexpensive way to solve starting load problems? By installing a Twin Disc HYDRO-SHEAVE on the output shaft of your electric motor. The motor can come up to maximum torque before picking up the load. Overloads merely cause the hydraulic fluid in the coupling to slip. The motor is protected. Another result is less demand current, sometimes even a smaller motor to do a bigger job. Level the load with a Twin Disc HYDRO-SHEAVE Drive and save money while you save machinery. Ask for Bulletin No. 145-B.

TWIN DISC HYDRO-SHEAVE DRIVES

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin — HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

Remember this about

The TYPE S JOHNSON *Rotary Pressure* JOINTS

Write for Catalog JS-3

The Type S is self-supporting . . . and from a cost standpoint it carries its own weight too. It stops misalignment cold because it shifts with the roll — slashes maintenance because it's completely packless and self-lubricating. It's the perfect answer for many jobs.

The Johnson Corporation

814 Wood St., Three Rivers, Mich.

BARNES SERVICE *Consulting Engineers*
TO THE TEXTILE INDUSTRY FOR OVER ½ CENTURY

We are pleased to announce the expansion of our consulting services to embrace:

PRODUCTION and INVENTORY PLANNING and CONTROL
SALES ANALYSIS and FORECASTING
SALES PLANNING and PROGRAMMING
SALES and OFFICE STANDARD PRACTICE INSTRUCTIONS
ORGANIZATION ANALYSIS PERSONNEL APPRAISAL

These services will be under the direction of Mr. Peter M. Fekula now affiliated with Barnes Textile Associates, Inc. They will complement our established consulting activities in the fields of general engineering, industrial engineering, cost and quality control, materials handling and industrial relations.

Mr. Fekula has had broad experience in a variety of industries in both consulting and operating capacities. Recently he completed an outstanding project for a well-known textile company which brought about close coordination of production and sales. He has been able to apply to textiles many of the principles which have proved so successful in the automotive and aircraft industries.

We will be pleased to give further information about the services rendered by our new Peter M. Fekula Division, as well as by our other departments.

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys—New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Laburmeter Burden-meter Waste-meter

Member: Association of Consulting Management Engineers, Inc.

BARNES TEXTILE ASSOCIATES, Inc.
10 HIGH STREET, BOSTON 10, MASS.
522 FIFTH AVE., NEW YORK 18, N. Y.
920-923 MONTGOMERY BLDG., SPARTANBURG, S. C.
European Agent: Ralph L. Hodara, 101 Reaumur, Paris 2

For Maintained Shrinkage-Perfect Finish—Long Life

HUYCK
COMPRESSIVE SHRINKAGE
BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the compressive shrinking process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

***PALMER BLANKETS*—also available for your special requirements.**

Write for information or see our representative

KENWOOD TEXTILE PRODUCTS

F.C. HUYCK & SONS
Kenwood Mills · Rensselaer, N.Y.

NEWS ABOUT Mills

COTTON MILLS

Belrug Mills, Inc., Greenville, S. C., has let the contract to Daniel Construction Co., Greenville, S. C., for the construction of a new weaving plant. The new plant will contain complete facilities for weaving and finishing cotton carpets.

Cabin Crafts, Inc., Dalton, Ga., is planning a building and expansion program. The new plant will occupy all of the Real Silk Hosiery Mill properties in Dalton. A brick building will be constructed adjacent to the new building at the main plant. Property has been purchased that will be used to construct a one-story, 100,000-sq.-ft. building for the manufacture of wide carpeting.

Delta Thread Co., Nashville, Tenn., recently installed new finishing and thread-winding equipment in its plant. The total cost was $75,000.

Esther Mill Co., Shelby, N. C., has taken over the operations of Marion Yarn Mills, Inc., Boiling Springs, N. C. No major change in operation is planned.

Georgia Duck & Cordage Co., Scottdale, Ga., has awarded a contract to C. T. Houlton, Decatur, Ga., for an extension to its weave room. The McPherson Co., Greenville, S. C., is the architect and engineer.

Goodyear Clearwater Mills, Atco, Ga., has broken ground for a new plant addition that will cost $1,000,000. Batson & Cook, West Point, Ga., is the general contractor. An order has been placed for $50,000 worth of equipment for Mill No. 1, Cedartown, Ga.

Mayfair Cotton Mills, Arcadia, S. C., has let the contract to Daniel Construction Co., Greenville, S. C., for a new addition to its mill. J. E. Sirrine Co., Greenville, is the architect and engineer.

Scottdale Mills, Scottdale Ga., has let the contract to A. K. Adams Construction Co., Atlanta, Ga., for an extension to its main mill. The McPherson Co., Greenville, S. C., is the architect and engineer.

Springs Cotton Mills, Eureka Plant, Chester, S. C., is constructing a new building in which 12,000 additional spindles will be installed. Construction will be completed in about eight months.

WOOLEN AND WORSTED MILLS

American Woolen Co. has sold the land and buildings that were formerly occupied by Assabet Mills, Maynard, Mass., to Maynard Industries, Inc. Assabet Mills ceased operations last July.

Collins & Aikman of Canada Ltd., Farnham, Que., recently completed a plant addition.

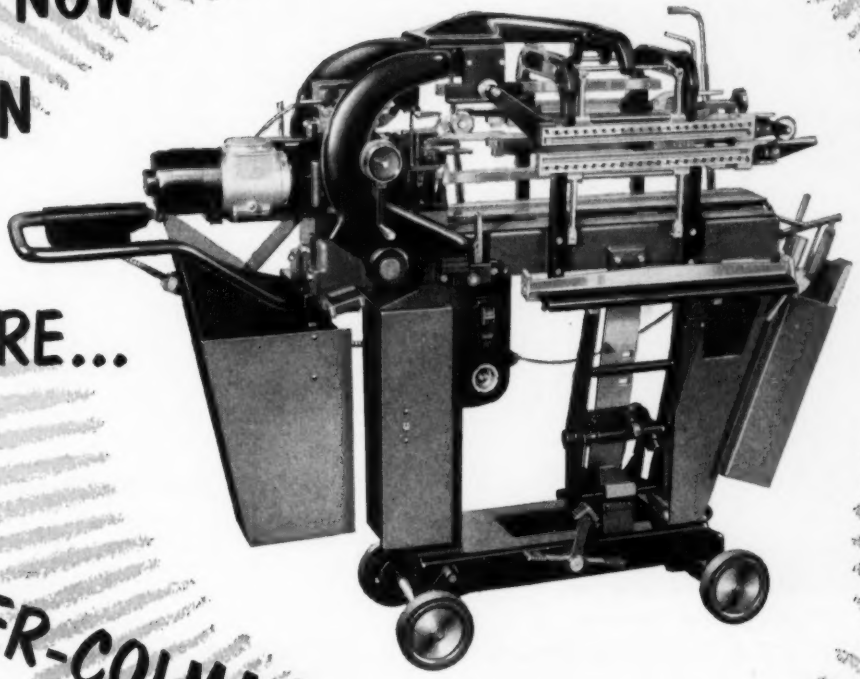
Domil Ltd., Sherbrooke, Ont., is installing spinning and weaving equipment as part of its expansion program.

Goodall-Sanford, Inc., Sanford, Me., plans to establish spinning operations at Hot Springs, N. C. Nearly $1,000,000 worth of equipment will be installed for operations from picking through winding and twisting. Plans and specifications for the plant were drafted by Charles T. Main, Inc., Boston, Mass. C. M. Guest & Sons, Greensboro, N. C., is the contractor.

Halifax Worsted Mills, Halifax, Va., a division of Pacific Mills, will open a temporary plant at Roxboro, N. C., for mending and burling various types of cloth. The plant will employ 25 to 30 workers at the start. If labor conditions and other factors are suitable, a permanent plant will be located at Roxboro.

James Lees & Sons Co., Glasgow, Va., has let the contract for the erection of a one-story addition to Wise Con-

BOTH NOW AND IN THE FUTURE...



BARBER-COLMAN PORTABLE WARP TYING MACHINES WILL BE VALUABLE

...and here is why:

Barber-Colman Company has been well acquainted with the needs of the textile industry now for over half a century. The outstanding performance of Barber-Colman machines is well recognized. Barber-Colman branch offices provide close personal contact in the principal mill areas. Barber-Colman repair parts and maintenance service has made a name for itself that insures maximum life and operating efficiency for all Barber-Colman machines. The Company is steadily expanding its manufacturing plant, establishing the organization ever more firmly for continued superior performance of its products, and continued top-notch service, far into the future. Thus Barber-Colman offers you the certainty of continuing high value.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U.S.A. MANCHESTER, ENGLAND MUNICH, GERMANY

INDIA
Batliboi & Company
Forbes Street, Fort
Bombay, India

MEXICO
J. Rabasa
Isabel la Catolica 45-813
Apartado 7348
Mexico D.F., Mexico

BRAZIL
Quimanil S.A. Anilinas
e Representacoes
Rua Glicerio 537/547
Caixa 5658 e 3431
Sao Paulo, Brazil

JAPAN
Nippu Trading Co., Ltd.
Toa Koshin Bldg.
3-Chome Kitahama Higashiku
Osaka, Japan

MIDDLE EAST
Arlind Corporation
65 Bedford Street
Stamford, Connecticut

TEXNOVO AUTOMATIC SHUTTLELESS TAPE & RIBBON LOOM

Continuous feeding weft Loom — Very high output—fitted with patented Bobbin Units weaving elastic and rigid narrow fabrics having identical selvedges on both sides.

Generally we transform the "Clutsom" and "Unimac" Looms in "Texnovo" system.

For more information and estimates, write direct.

for 2 - 10 or 20 spaces

TEXNOVO S.P.A. Via Revere, 8
ITALY MILAN

CUSTOM Gears

Steel
Cast Iron
Plastic

ENGINEERED and TESTED

- SPUR
- SPIRAL
- BEVEL
- WORM
- WORM GEARS

PRECISION makes more textile gears because PRECISION Gears have longer Accuracy. Simple, isn't it—yet, not easy! But, PRECISION gets a head start through superlative gear designing. Then, precision gear cutters (they're up-to-25 year men) and the finest machines take over. They cut "little giants" or electronic gears with proportionate skill. The "South's Largest Makers" means the South's most dependable gears. That's what PRECISION can give you for your next gear needs.

Engineers : Manufacturers — Cams : Bearings : Gears : Chain Drives
DIVISION OF TURNER MANUFACTURING CO.

PRECISION
GEAR AND MACHINE CO.
2001 North Tryon St, Charlotte, N.C.
Ph. 4-6857

THE SOUTH'S LARGEST MANUFACTURER OF GEARS AND CHAIN DRIVES

News About MILLS (Continued)

struction Co., Richmond, Va. Plans were drawn by Kuljian Corp., Philadelphia, Pa.

Noone Div. of Kenwood Mills, Peterborough, N. H., recently completed an extensive modernization program. Four sets of 60-in. cards and six 150-spindle spinning frames were installed. New finishing equipment was also set up, and existing machines were realigned to increase production.

George Pattison & Co. Ltd., Preston, Ont., has been acquired by the Fairfield family of Winnipeg. J. G. Fairfield will become resident manager. Frank Pattison will continue with the firm in an advisory capacity.

Philadelphia Penn Worsted Co., Philadelphia, Pa., has let an $8,000 contract to Federal Home Improvements Co., Philadelphia, for alterations to its yarn mill. Herman Kline, Philadelphia, the architect.

Rosamond Woolen Co. Ltd., Almonte, Ont., recently installed three new 240-spindle spinning frames made in Switzerland as the first step in its modernization program. Sixteen new looms are to be installed.

Southern Worsted Mills, Inc., Paris, S. C., has awarded the contract for a plant addition to Daniel Construction Co., Greenville, S. C. The estimated cost is $150,000.

SYNTHETICS MILLS

Clarksville Div., United Merchants & Manufacturers, Inc., Clarksville, Ga., plans to erect a mill addition at a cost of about $100,000.

Courtaulds (Canada) Ltd., Cornwall, Ont., is having alterations made to its plant offices. The cost is estimated at $25,000.

Delaware Mills, Inc., New Castle, Del., has awarded the contract for the construction of a $100,000 spinning mill at Frederica, Del., to Cantera Construction Co., Wilmington, Del.

F. Ducharne Fabrics, Inc., Paterson, N. J., has changed its name to Atlantic Fabric Corp. Operation and ownership remain unchanged.

Huntingdon Yarn Mills, Philadelphia, Pa., is building a $12,000 addition. Wintz Bros., Inc., Philadelphia, is the general contractor.

Verney Corp., Manchester, N. H., has acquired property in Richmond Hills, Ga., for its proposed Southern rayon-weaving plant. The cost of the new plant will be approximately $1,500,000.

KNITTING MILLS

Acclaim Hosiery Mills, High Point and Hartsville, N. C., has purchased the entire capital stock of Colonial Hosiery, Inc., High Point. The Colonial plant will be enlarged and converted to a finishing plant for all of Acclaim's operations. Colonial knitting equipment will be transferred to Hartsville.

Adams-Millis Corp., High Point, N. C., will build a three-story addition to its No. 1 seamless half-hose plant on English St. Completion is expected by Sept. 1.

TEXTRON SOUTHERN, INC., is nearing completion of its new throwing and tricot plant at Williamston, S. C. This is one of several plants that have been constructed by Textron during the past two years. Daniel Construction Co., Greenville, S. C., is the contractor.

Destination of every textile executive in OCTOBER 1953

The world still expects a lead to be given by England, and particularly by Lancashire, in the technique of textile productions. From the very first Textile Recorder Exhibition of Textile Machinery and Accessories, the occasion has rightly assumed ever greater importance, both to exhibitors and visitors. For October, 1953, past records for 1949 are already broken. Exhibitors from nine countries will total 250, occupying 90,000 sq. ft. of stand area. To the experts, and to all concerned in textile production, this exhibition represents the one opportunity to see under one roof, the most outstanding developments not only from Britain but from all the textile engineering centers on both sides of the Atlantic.

Decide now the dates of your visit

Write for leaflet giving details of arrangements for visitors

"TEXTILE RECORDER" EXHIBITIONS LTD., Old Colony House, South King Street, Manchester 2, England

---

LIFE-LUBE BALL BEARING PILLOW BLOCK

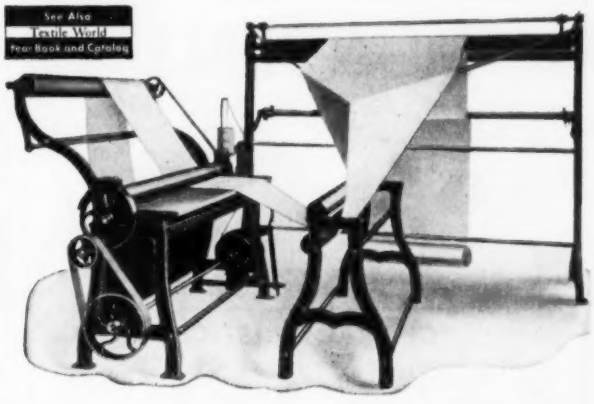
Just look at these features!

- **Proper lubricant sealed in for life at Factory. Can't be over-lubricated; can't be under-lubricated.**
- **Ideal for heavy lint and dust conditions.**
- **MRC Standard 200 series bearings for smooth, long life.**
- **Synthetic seal keeps lubricant in—keeps dirt out—allows unrestricted alignment in any direction.**
- **Self Locking collar locks bearing to shaft.**
- **Most shaft sizes carried in stock; from ½" to 2 15/16".**

Write for Bulletin 194, or consult your Industrial Distributor.

T. B. WOOD'S SONS CO.
CHAMBERSBURG, PA.

Branches: Cambridge, Mass., Newark, N. J., Dallas, Tex., Cleveland, O.



No. 27—IMPROVED DOUBLING AND TACKING MACHINE

Sewing any length stitch up to 1¼ in., making a firm, strong stitch for any weight or width of goods. This machine is equipped with our latest oscillating needle bar sewing head, which makes it the fastest tacking machine on the market for tacking the selvages of woolen and worsted fabrics. For further information, send for our catalog.

DINSMORE MFG. CO.
SALEM, MASS.

 For more information, write direct or use Reader Service post card.

SIX DECADES AGO

it was principally silk with us. Today it's nylon, rayon, dacron, orlon and every other throwing service in synthetic fibers. But always, as for these six decades, it's been dependable, superior work at

Oscar Heineman

CORPORATION . . . *Division of Aetna Industrial Corporation*

DONALD G. BREWSTER, *President and General Manager*

Processors of Nylon, Orlon, Dacron, Silk, Rayon and Other Synthetic Fibers

2701 Armitage Avenue, Chicago 47, Ill.

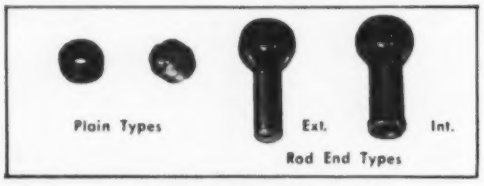
Branch: Concord, N. C.

SALES AGENTS

C. D. Gott Co. . 1001 Provident Bldg. • Chattanooga
Thomas C. Assheton Co. • 11 West 42nd St. • New York 18
Frank Lunday • P. O. Box 1154 • Charlotte, N. C.

"MONOBALL"®

SELF-ALIGNING BEARINGS



CHARACTERISTICS

ANALYSIS		RECOMMENDED USE	
1.	Stainless Steel Ball & Race	1.	For types operating under high temp. (800—1200 degrees F.)
2.	Chrome Molly Steel Ball & Race	2.	For types operating under high radial ultimate loads (3000—893,000 lbs.).
3.	Bronze Race & Chrome Molly Steel Ball	3.	For types operating under normal loads with minimum friction requirements.

Thousands in use. Backed by years of service life. Wide variety of Plain Types in bore sizes 3/16" to 6" Dia. Rod end types in similar size range with externally or internally threaded shanks. Our Field Engineers welcome an opportunity of studying individual requirements and prescribing a type or types which will serve under your demanding conditions. Southwest can design special types to fit individual specifications. As a result of thorough study of different operating conditions, various steel alloys have been used to meet specific needs. New types have been developed, many as a result of specific requirements of our customers. Write or wire now for revised Engineering Manual describing complete line of "Monoball" Self-aligning Bearings and Rod Ends. Please address Dept TW-753.

SOUTHWEST PRODUCTS CO.

1705 S. Mountain Ave. Duarte, Calif.

News About **MILLS** (Continued)

Charles H. Bacon Co., Lenoir City, Tenn., is planning an addition to its plant. J. E. Sirrine Co., Greenville, S. C., is the engineer.

Berkshire Knitting Mills, Reading, Pa., will install 76 new full-fashioned Reading knitting machines in its mill. The mill has already added 12 Turbo preboarding machines and more will be added.

Black Mountain Hosiery Mills, Black Mountain, N. C., will have an additional 12,000 sq. ft. of floor space when the building now under construction is completed. C. W. Clevenger is superintendent.

Burlington Mills Hosiery Co. of Canada Ltd., a subsidiary of Dominion Textiles Ltd., Montreal, Que., is erecting a one-story extension, 134x60 ft., to its plant on St. Joseph St., Lachine (Montreal). It will be of brick and framework construction. The general contractor is Walter G. Hunt Co. Ltd., Montreal. E. Jubien is the chief engineer. The cost is approximately $60,000.

William Carter Co., Needham Heights, Mass., will lease a new one-story structure containing about 50,000 sq. ft. of space that is to be built by the City of Senatobia, Miss. The mill will produce nylon lingerie and children's garments.

Cline Hosiery Co., Spruce Pine, N. C., is now in full operation in its new building on Highway 19-E.

Douglas Silk Products Co., Douglas, Ga., is installing new machinery.

Fairview Hosiery Mill, West Hickory, N. C., has started production of men's argyle socks. New machines have been installed.

General Knitting Mills, Monroe, N. C., has awarded the contract to R. T. Murray, Monroe, for a mill building. The cost will be $135,000. Machinery will be moved from the present location in Allentown, Pa.

Heller Knitting Mills, Woonsocket, R. I., has leased additional space and installed 13 additional knitting units.

Jantzen Knitting Mills will construct a new plant in Seneca, S. C. Production is expected by the end of this year. Plans call for a 30,000-sq. ft. building. Eventual expansion to 90,000 sq. ft. is planned. Daniel Construction Co., Greenville, S. C., is the contractor.

Limerick Knitting Mills, Limerick, Me., is being reorganized and will be in production shortly. Abraham Young, Brooklyn, N. Y., will head the operation.

Meldon Mfg. Co., Inc., Philadelphia, Pa., has been incorporated to manufacture women's sweaters. Officers are Sol Shapiro, president; Kenneth Meridith, vice president; and Irvin Shapiro, secretary.

Pandora Knitwear, Inc., Manchester, N. H., is installing spinning facilities on one floor of its plant. Spinning operations will occupy 40,000 sq. ft. of space. Pandora also dyes and knots.

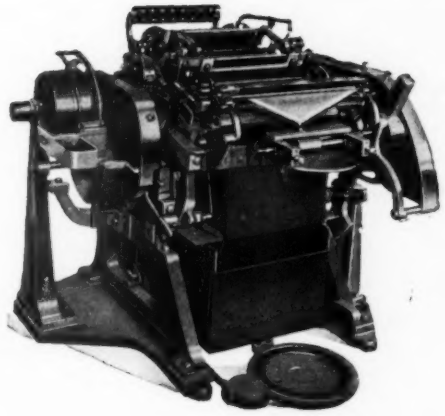
R. & J. Knitting Mills has moved to larger quarters at 236-38 Liberty Ave., Brooklyn, N. Y.

Rainbow Knitting Mills and Playknit Mills, Inc., West New York, N. J., will be consolidated into one company to be known as Play-Knit Mills. Anna and Alex Pozner will

AMERICAN THREAD CO. dedicated its new finishing plant at Sevier, N. C., on June 30. Full production will be reached this month.

WORLD-FAMOUS

SCHLUMBERGER COMB



for French-Type

Worsted Mills

OUTSTANDING for ready accessibility of all operating parts (including cylindrical comb) and for remarkable cleanliness of product. Settings made quickly.

Also other worsted preparatory machinery

U. S. and Canada Representative: TEXPLANT CORP., 65 Bedford St., Stamford, Conn.

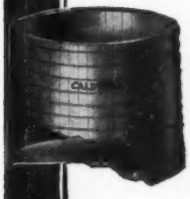
N. SCHLUMBERGER & CIE

GUEBWILLER, ALSACE, FRANCE

Founded 1808

CALDWELL TANKS—

First Choice of the Textile Industry!



Caldwell offers the industry a complete tank service, including solid Stainless and Stainless-lined wood tanks and tubs, of any shape or size.

If you're thinking of installing or replacing a tank, let our 60 years' experience in building high-grade tanks serve you. *Send for our catalog, today!*

W. E. CALDWELL CO., Inc.
2060 Brook St., Louisville, Ky.

Caldwell TANKS AND TOWERS

13 ISSUES OF TEXTILE WORLD

BEGINNING THIS YEAR!

Watch for this extra issue, crammed with useful information

See Page 68 For Details

Give your Cards a *New Lease on Life!*

ROY Card Grinders

ROY Ball Bearing Cotton Traverse Grinder produces the smoothest card grinding action ever achieved — breezing touch action — accurate side grind . . . added years of service to new as well as old grinders.

Sales Engineers in the South
W. P. COOPER • L. P. BELL • H. C. SCHWAGER, JR.

Southern Office and Plant
LINWOOD and SECOND AVE. • GASTONIA, N. C.
Telephone Gastonia 4-2126

B. S. Roy & SON COMPANY

WORCESTER, MASS. • GASTONIA, N. C.

FOR KNITTING OR WEAVING

Insist on

AMERICAN & EFIRD YARNS

NATURAL YARNS
Combed Peeler or Sak, 10's-90's Single
Combed Peeler or Sak, 10's-100's Ply
Carded Peeler, 8's-30's Single

® AMERICAN DURENE®
As advertised in leading magazines

THREAD DIVISION
LAWRENCEBURG, KENTUCKY

ALSO SYNTHETICS AND WORSTED YARNS

AMERICAN & EFIRD MILLS, INCORPORATED
Mount Holly, North Carolina · H. R. SUTTENFIELD, Vice-President and Sales Manager
Successors to American Yarn & Processing Company and Efird Manufacturing Company

MOUNT HOLLY, N. C. — Mr. C. F. Wood; Miss E. R. Abernathy; Mr. T. J. Davis
HIGH POINT, N. C. — Mr. E. J. Holbrook
CHATTANOOGA, TENN. — Mr. H. W. Davenport, 728 James Bldg.
BOSTON, MASS. — Mr. L. T. Howeth, 222 Summer Street
PHILADELPHIA, PA. — Mr. Wm. Montgomery, 3701 N. Broad Street
ALBEMARLE, N. C. — Mr. A. K. Winget
CHICAGO, ILL. — Wood & Hutchinson, 222 W. Adams Street
GASTONIA, N. C. — Mr. T. C. Smotherman
NEW YORK, N. Y. — 51 Madison Avenue
ANNISTON, ALA. — Mr. Horace Frierson

CREATED FOR THE TEXTILE INDUSTRY

the DUROMETER
FOR TESTING WINDING DENSITY

Created to solve the problem of maintaining uniform density for unwinding in later processes, the DUROMETER saves time and money. Tests density of windings on spools, cones, bobbins, cops and package dyeing tubes.

Write today for bulletin R-8

Shore INSTRUMENT & MFG. COMPANY, INC.
90-35 VAN WYCK EXPRESSWAY, JAMAICA 35, N. Y.

STRIP-O-MATIC CARD CLOTHING...

. . . runs virtually without stripping. Saves time, money, and labor. Produces better quality.

Booth

CARD CLOTHING FOR EVERY NEED
STRIP-O-MATIC AND CONVENTIONAL

BENJAMIN BOOTH COMPANY, ALLEGHENY AVE. & JANNEY ST., PHILA., PA.

News About MILLS (Continued)

head the new corporation. Operations will continue at 6112 Johnson Pl.

Roper Knitting Co., Canandaigua, N. Y., has sold all its outstanding stock to Charles P. A. Persons, vice president and secretary of the company.

Sam Schiffer Knitting Mills has moved to its new location at 200 Kosciusko St., Brooklyn, N. Y.

Sheer Silk Hosiery Mills Ltd., Sherbrooke, Que., has ordered eight 72-gauge full-fashioned hosiery-knitting machines from Robert Reiner, Inc., Weehawken, N. J.

Slane Hosiery Mills., Inc., High Point, N. C., has purchased all buildings and equipment from Guilford Mills, Inc. Part of the machinery will be used by Slane to expand production of men's and boy's fancy hose.

C. E. Sytz & Sons, Dyersburg, Tenn., is reported establishing a plant to knit worsted jersey and to print on both flannels and jersey.

Textron, Inc., Providence, R. I., is concentrating its tricot knitting in its East Greenwich, R. I., plant.

Twintex Hosiery Mills Corp., East Greenville, Pa., is now building a $75,000 addition to its hosiery mill. Pontz-Kopeland, Philadelphia, is the general contractor. Frank M. Bates, Bristol, Pa., is the architect.

Wright-Knit Hosiery Mills, Hickory, N. C., has begun production of solid-diamond argyle hosiery for men. The plant is located in a new brick building on East Highland Ave. W. S. Foster is president of the company. G. H. Stanhope is the general superintendent.

DYEING AND FINISHING PLANTS

Chester Finishing Corp., East Stroudsburg, Pa., has opened a new plant for dyeing and finishing fabrics of Orlon, Dacron, nylon, etc., and blends of synthetic and natural fibers. The company was previously in operation at Chester, Pa.

Crompton-Shenandoah Co., Waynesboro, Va., has let the general contract to Ditmars-Dickmann-Pickens, Inc., Little Rock, Ark., for the construction of a new corduroy finishing mill at Osceola, Ark., to be operated by the Osceola Finishing Co. The cost is reported to be over $3,000,000.

John Bromley Dyeing Mills, Philadelphia, Pa., has started work on an $8,000 addition to its plant at Adams Ave. and Leiper St. Frank G. English & Son, Philadelphia, is the contractor.

Lionel & Leopold Forand, Granby, Que., has started construction of a dyeing plant on St. Francis St. The one-story building will be of concrete, wood, and concrete-block construction.

Minette Mills, Grover, N. C., is erecting a finishing plant that will be opened in August for coating rubberized cloth.

Stonecutter Mills Corp., Spindale, N. C., is rebuilding its dyehouse at a cost of $100,000.

Union Bleachery Div., Aspinook Corp., Greenville, S. C., has let the contract to Morris Construction Co., Greenville, for a new addition to its mill. J. E. Sirrine Co., Greenville, is the architect and engineer.

FOREIGN MILLS

Java, **Indonesia**—The fifth cotton-weaving mill to be set up by the Indonesian government is reported to be in the process of assembly.

Pakistan Industrial Development Corp., Karachi, Pakistan, has asked bids on machinery and equipment for a new woolen mill that will be established in the Thal area.

Textile Corp. of Hong Hong, Ltd., Hong Kong, has been established by local financiers and has acquired Shanghai Textiles, Ltd.

Tochio Twisted Yarn Industry Association, Tochino, Japan, is reported to have requested foreign exchange in order to import 20 Italian-type throwing frames.

NEWS ABOUT Men

William O. Allison has been named comptroller of Reeves Bros., Inc., New York, N. Y.

Stanley F. Banas, controller of Susquehanna Mills, Inc., New York, N. Y., has been named a vice president to succeed **J. Harry Johnson,** resigned. Mr. Banas will also continue as controller.

Ralph Barnard, formerly overseer at the St. Pauls, N. C., pilot plant of Burlington Mills, Inc., has joined the staff of the Department of Textile Research, School of Textiles, North Carolina State College, as a research supervisor.

Joe L. Barnett has been elected treasurer and a director of South Fork Mfg. Co., Belmont, N. C. **Lige A. Abernethy** has been elected secretary and a director of the company.

Norman Beaks has been named superintendent of inspection at Borden Mills, Kingsport, Tenn. **Joe Mattox,** formerly with Jackson Mills, Iva, S. C., has joined Borden Mills as superintendent of carding. He succeeds **T. G. Stroud.**

John C. Beal has resigned as technical overseer of weaving at Cone Mills Corp., Greensboro, N. C., to accept a position with Lane Cotton Mills, New Orleans, La.

Paul C. Beatty has been named assistant Southern manager of the Worsted Div. of Pacific Mills. He is succeeded as resident manager of the Halifax, Va., plant by **George W. Smith.**

Eric Bell has succeeded **Frank Stubbings** as manager of the Dublin Finishing Plant, Dublin, Va., a division of Burlington Mills Corp.

M. Bernard has resigned as overseer of night carding at Seymour Woolen Mills, Seymour, Ind., to accept a similar position at Springfield Woolen Mills, Springfield, Tenn. **Hubert Holt** has been named overseer of finishing. **Willard Bishop** is now assistant superintendent and designer.

LEE WATERMAN has been named administrative vice president of Alexander Smith, Inc., Yonkers, N. Y.

Randolph Boaze was named to the newly created position of superintendent of carding and spinning at Mooresville Mills, Mooresville, N. C.

Jack N. Bogoff has been elected president and treasurer of United States Hosiery Corp., New York, N. Y. **Baxter D. Huntley** is executive vice president; **S. N. Bogoff,** vice president; **Monroe A. Bogoff,** secretary; and **Edward G. Kuhn,** assistant secretary.

Clarence Burlingame has retired as overseer of carding for Crown Mfg. Co., Pawtucket, R. I.

George C. Buxton has been succeeded as overseer of worsted scouring, carding, and combing at Arms Textile Mfg. Co., Manchester, N. H., by **Henry Carrigan.**

W. B. Calvert has been appointed vice president in charge of manufacturing for Portland Woolen Mills, Inc., Portland, Ore. **F. C. Schultz** has been named vice president in charge of sales, and **R. T. Montag,** first vice president.

—but of utmost importance to YOU!

Your Ring Travelers directly affect the spindle speeds in your mill and the quality of your yarns. It pays to use the *right* travelers to perfect your spinning and protect your profits. We make many thousands of different styles and weights of ring travelers and will gladly recommend the *right* travelers for your use. Write, wire or phone for prompt action. National Ring Traveler Company, Pawtucket, R. I., and Charlotte, N. C.

STANDARD in U. S. A.
American • Hicks • Wilson

WENTWORTH
Double Duty • Gravity • Gravity Express • Bal-Ellipsoid

NATIONAL ETARTNEP FINISH

F. L. Chase, Jr., Pres. & Treas. • L. E. Taylor, So. Mgr.

NATIONAL
RING TRAVELERS

OLDEST AND LARGEST MANUFACTURER OF RING SPINNING AND TWISTING TRAVELERS IN THE UNITED STATES

ROME SOAP MFG. CO.

MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
ROME, N. Y.

WRITE US FOR
SAMPLES AND
QUOTATIONS

The **Kuljian** *Corporation*
RAYON PLANTS & TEXTILE MILLS

KULJIAN

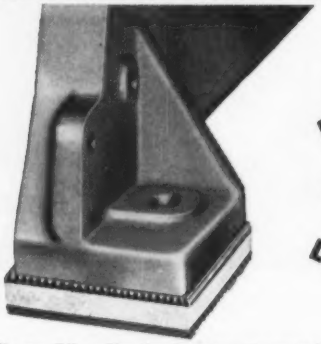
- ***DESIGN***
- ***CONSTRUCTION***
- ***MANAGEMENT***

1200 N. BROAD ST., PHILA. 21, PA.

MEXICO CITY • CARACAS • MADRID • ROME • ATHENS • TOKYO • CALCUTTA

For more information, write direct or use Reader Service post card. 261

It's SIMPLE To Control VIBRATION and NOISE with Elasto-Rib...



NO BOLTING

NO CEMENTING

LOW COST

Elasto-Rib effectively stops transmission of vibration and noise from looms and other textile machinery by utilizing the elastic and damping properties of both cork and rubber.

It is fast and easy to install. For most machine applications, no bolts, lag screws or cement are required. Sheets 24" x 36" can be sawed or cut to size as needed.

New, illustrated booklet tells all about Elasto-Rib and how to install it. Ask for ER-702 and free sample.

THE KORFUND COMPANY, INC.

KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK

48-56G Thirty Second Place, Long Island City 1, N. Y.
In Canada: 510 Canal Bank, Ville St. Pierre, Montreal

EISENBERG FIBERS, INC.

SYNTHETIC GARNETTS

NYLON • DACRON • ORLON
PERLON • VICARA

Cut Staple our Specialty

173 Hudson Street
New York 13, New York
Canal 6-4290, 4291

Mill:
Hope Valley, R. I.

Industrial Engineers

SPECIALIZING IN TEXTILES FOR OVER ONE-THIRD OF A CENTURY

PAYROLL CONTROLS COST SYSTEMS
SPECIAL REPORTS WORK LOAD STUDIES
COST REDUCTION REPORTS

Ralph E. Loper Co.

GREENVILLE, S. C. FALL RIVER, MASS.

News About **MEN** (Continued)

RALPH L. BRAUN has been named secretary-treasurer of Belding Heminway Co., Inc., New York, N. Y.

J. M. Dove has been named superintendent of Grendel Mill, Greenwood, S. C., replacing **J. Fred Moody. A. Boyce** has been promoted from assistant superintendent to superintendent at Panola Mill, also of Greenwood. He succeeds **A. L. Banister,** who has retired. Both mills are divisions of Abney Mills.

Jack Fisher, superintendent of the Kingsley Mill, Thomson, Ga., has been transferred to the Gerrish Milliken Mill, Pendleton, S. C., as plant manager. He will be succeeded in Thomson by **William Thailkill,** assistant superintendent.

Robert J. Froeber has been elected purchasing agent at Hanes Hosiery Mills Co., Winston-Salem, N. C.

Robert L. Gross has been promoted to assistant testing engineer at Callaway Mills Co., LaGrange, Ga.

H. A. Gustafson has been elected secretary of Green River Mills, Inc., Tuxedo, N. C., succeeding the late **Douglas Blois.**

Frederick S. Haslam, vice president of The Bell Co., Worcester, Mass., has been elected president to succeed **Myron S. Freeman,** who is retiring. **Sargeant D. Heath,** assistant treasurer, has been named vice president.

W. P. Hazelwood has been elected chairman of the board and **H. D. Sears, Jr.,** president of Pickett Cotton Mills, Inc., High Point, N. C.

Baxter D. Huntley has been elected president of Carolyn Hosiery Co., Inc., Charlotte, N. C.

C. W. Jamison has been promoted to overseer of the No. 2 weaving department at Spartan Mills, Spartanburg, S. C. **J. T. Delamar** has been promoted to general overseer of the second shift, and **Harry E. Barnes** has been promoted from loomfixer to second hand of weaving on the third shift.

Eugene Johnson has assumed his new duties as purchasing agent for Lydia and Clinton Cotton Mills, Clinton, S. C. He succeeds **Bailey Williams,** who has resigned.

James Kershaw has resigned as superintendent of the topmaking department of Amoskeag-Lawrence Mills, Manchester, N. H., to accept the position of plant manager at Fred Whittaker Co., Philadelphia, Pa.

R. T. King has been appointed manager of Collins Yarn Processing Co., Hickory, N. C., succeeding **L. G. Shelor,** resigned. Mr. King will also serve as assistant treasurer.

Russell L. Lawson, formerly vice president of Utica Knitting Co., Utica, N. Y., has been named executive vice president of Central Scientific Co., Chicago, Ill.

R. L. Merrill has resigned as overseer of carding at Webster Mills of American Woolen Co., Webster, Mass. He has been succeeded by **James Hassett.**

P. D. Merritt has become superintendent of Dacotah Cotton Mills, Lexington, N. C., succeeding **Howard Townsend.**

Whipple Mowry has returned to his former position as overseer of dyeing at Rhode Island Plush Mills, Woonsocket, R. I.

John D. Paddon has been named vice president in charge of production for Canadian Cottons Ltd., Montreal, Canada.

News About **MEN** (Continued)

A. Keith Pooser will head the engineering activities in the following plants of American Thread Co.: finishing plants at Sevier, N. C., and Bristol, Tenn.; spinning mills at Troutman, N. C., Clover, S. C., and Newman, Tallapoosa, and Dalton, Ga.

Samuel Powel, cotton division superintendent for Kendall Mills, Walpole, Mass., has been named plant manager for Burson Knitting Co., Rockford, Ill. He succeeds **A. E. Ritchie**, who will go to the finishing division of Kendall Co. at Walpole.

J. U. Ryan, Jr., formerly overseer of dyeing, second shift, at the Ounegan Mills of American Woolen Co., Old Town, Me., is now associated with James Lees & Sons Co., Bridgeport, Pa.

Richard T. Scott has resigned as vice president and board member of Holly-Knit, Inc., and as a member of the board of directors of American & Efird Mills, Inc., of Mount Holly, N. C.

Vance Sanders has been named overseer of the finishing department at the Calumet Mill of Callaway Mills, LaGrange, Ga. **W. E. Lewis** has been named overseer of the packing department.

Frank P. Samford has been elected a director of the six companies affiliated with the West Point Mfg. Co., Boston, Mass. These companies include Lanett Bleachery & Dye Works, Lanett, Ala.; Dixie Mills, Inc., LaGrange, Ga.; Columbus Mfg. Co., Columbus, Ga.; Cabin Crafts, Inc., Dalton, Ga.; Equinox Mill, Anderson, S. C.; and Wellington Sears Co., New York, N. Y.

Oscar M. Shaw has been elected a director of Naumkeag Steam Cotton Co., Salem, Mass.

Heyward V. Simpson has accepted the position of assistant superintendent of rayon finishing at Riegel Textile Corp., Ware Shoals, S. C. He was formerly with Burlington Mills, Dublin, Va.

Philip Slifka has been elected president of Blue Bird Silk Mfg. Co., York, Pa.

L. K. FITZGERALD has been named general superintendent of Dan River Mills, Inc., Danville, Va. Mr. Fitzgerald succeeds Raymond Henderson, who has resigned.

Lincoln Smith has been named superintendent of Strong, Hewat & Co., Inc., North Andover, Mass., succeeding **David McLelland**, resigned. **Dorrance Walbridge** has succeeded **Hector M. Fraser** as overseer of dressing. **Carlton Rabare** has succeeded **George Carson** as designer.

Dunlop Stewart has been named vice president and general sales manager of the Hamilton Cotton Co., Hamilton, Canada. **Selby B. Stewart** has been named assistant general sales manager.

H. Edward Toner has been elected president of Standard Bleachery & Printing Co., Inc., Carlton Hill, N. J., succeeding **L. A. Cowley**, retired. Mr. Cowley is succeeded as treasurer by **C. A. Cooper**.

Howard D. Townsend has retired as superintendent of Dacotah Cotton Mills, Lexington, N. C.

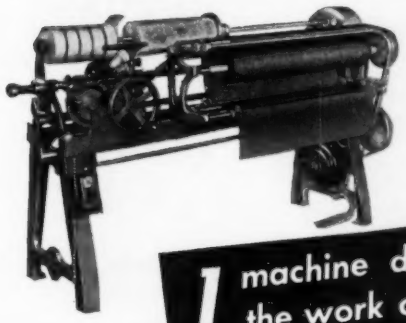
Robert Vanderspek has been named assistant to **S. P. Ruff**, vice president and general manager of Aberfoyle Mfg. Co. of Canada Ltd., Guelph, Ont.

Harold G. Vechtal has been named a vice president of American Fabrics Co., Bridgeport, Conn.

J. Randall Walker has succeeded **John Dove** as manager of Douglas Silk Products Co., Douglas, Ga.

John Wardlaw has been

UTICA Combination Winding and Cutting Machine



1 machine does the work of 2

THIS fast-producer has all the advantages of two machines, but uses the floor space of just one. Cuts light, medium, or heavy weight, both straight and bias fabrics. Cutter and Winder can be run at the same time. Rigidly constructed for long, trouble-free operation. Has measuring scale for cutting accurate rolls. It's safe—knife, grinding wheel, all gears and sprockets are well-guarded. Equipped with Veeder Root yardage counter. Made in 40, 45, and 55 inch width machines. Make your own bindings—as you need them—from the same material as your product—at lower cost. Write today.

UTICA

NOVELTY AND MILL SPECIALTY CO.

2145 DWYER AVE., UTICA 2, NEW YORK

Builders of Textile Machines Since 1903

Control **MAXIMUM PRODUCTION**

with **G. S. HAND TACHOMETERS** *and* **SPEED INDICATORS**

1% Accuracy for any range from 30 to 100 000 RPM or surface speed.

Antimagnetic durable mechanism.

Efficient repair service at moderate charges.

IDEAL FOR MOTORS - SHAFTS - SPINDLES - LOOMS - TURBINES - FOR TEXTILE AND POWER PLANTS

WRITE FOR ILLUSTRATED FOLDER

GEORGE SCHERR CO., INC.

200 F LAFAYETTE ST. • N.Y. 12, N.Y.

JIFFY TEXTILE MARKER

For use on rayon, cotton and woolen material. Dye-resistant and boil-proof, permanent, inexpensive, quick and easy to use.

For information address

JIFFY TEXTILE MARKER CO.

406 W. School Lane Philadelphia 44, Pa.

For more information, write direct or use Reader Service post card. 263

UNBRAKO®
self-locking
CUP POINT

The point that won't work loose

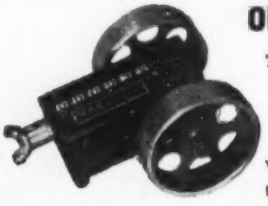
Unique, counterclockwise knurls on the cup point make these UNBRAKO Socket Set Screws self lockers, prevent them from loosening. UNBRAKO Self-Locking Set Screws stay tight even in poorly tapped holes, reduce maintenance costs and cut production losses. Standard sizes—#4 to 1" in a full range of lengths—are available for prompt delivery from your UNBRAKO industrial distributor. Write for UNBRAKO Standards. SPS, Jenkintown 35, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

UNBRAKO SOCKET SCREW DIVISION SPS
JENKINTOWN PENNSYLVANIA

DANA WARP MILLS
Westbrook, Maine
Cotton yarns, single and ply
Carded and Combed
Cotton warps, single and ply
Colored yarns and warps
Spun rayon—yarns and warps

"YOU CAN COUNT ON WAK COUNTERS"



They are
RUGGED
ACCURATE
DEPENDABLE

We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.

Write—Phone—Wire

WAK INDUSTRIES
CHARLOTTE, N. C.

News About MEN (Continued)

named technical superintendent of the Hatch Mill, Columbus, N. C., Excelsior Mill, Rutherfordton, N. C., and Excelsior Mill, Union, S. C., all units of Deering, Milliken & Co. He is succeeded as assistant superintendent at Hatch by **Bob Branner.**

Hamilton J. Whitlock has been elected president and **W. P. Whitlock, III,** treasurer of Whitlock Cordage Co., Jersey City, N. J. **W. Crawford Craig** has been appointed assistant to the president.

Pete Williams has been promoted to assistant superintendent of Dixie Mills, Inc., LaGrange, Ga.

Benjamin Wishnietsky, vice president of Lee Dyeing Co., Johnstown, N. Y., has been assigned to direct the operations of Lee Dyeing Co. of North Carolina, Inc., Camp Butner, N. C.

OBITUARY

M. O. Alexander, 82, former general manager of the Woodside Mills chain, Greenville, S. C.

Harry B. Benson, 54, vice president of Cheney Bros., Manchester, Conn.

Frank J. Boyndon, 56, division manager of the Full Fashion Hosiery Div. of Chadbourn Hosiery Mills, Inc., Charlotte, N. C.

Donald W. Bridgman, 67, vice president and director of Foster Machine Co., Westfield, Mass.

David Y. Cooper, 72, vice president and director of Henderson Cotton Mills and Harriet Cotton Mills, Henderson, N. C.

Robert H. Crompton, Sr., 79, founder and chairman of the board of Madison Spinning Co., Philadelphia, Pa.

Harry D. Drew, vice president in charge of the Textile Oil Div., Masury-Young Co., Boston, Mass.

E. S. Dunn, retired vice president and general superintendent of Avondale Mills, Sylacauga, Ala.

Hargraves Gill, former president and manager of the Westboro Weaving Co., Greenville, S. C.

Bernard J. Gorman, Sr., 60, owner of Lansdowne Spinning Mills, Philadelphia, Pa.

Karl Grier Hudson, 64, president of Pilot Mills Co., Raleigh, N. C.

James J. Kahn, 56, president and owner of Wilmington Hosiery Co., Wilmington, Del.

Edward E. LeBer, 71, former superintendent of Barre Wool Combing Co., South Barre, Mass.

Robert M. Lower, treasurer of Nicetown Dye Works, Philadelphia, Pa.

Bennett D. Lynn, 44, a director of Corriher Mills Co., Landis, N. C.

James W. McLaughlin, 62, vice president of Union Carbide & Carbon Corp. and chairman of the board of Bakelite Corp., New York, N. Y.

Howard W. Matthews, 55, vice president of Turbo Machine Co., Lansdale, Pa.

B. J. Platt, 82, superintendent of Oriental Textile Mills, Houston, Tex.

John T. Pollard, 70, chairman of the board of Galax Knitting Co., Inc., Galax, Va.

Alfred M. Townson, 86, founder and president of A. M. Townson & Co., Philadelphia, Pa.

John Walton West, 65, superintendent of the mechanical department of United States Finishing Co., Hartsville, S. C.

James L. Whitaker, president of William Whitaker & Sons, Philadelphia, Pa.

Frederick Arlington Williams, 72, former president and treasurer of Cannon Mills, Inc., New York, N. Y.

Communist machine-gun fire dropped him in combat. But whole blood kept him alive, saw him through the hospital. He thanks you for his life.

She'd been exposed to polio. A new serum, *Gamma Globulin*, made from blood, helped ward off the dread disease. She thanks you for her life.

A tornado whipped suddenly across her home town. She was badly injured by falling debris. But a quick operation, several transfusions pulled her through. She thanks you for her life.

Three grateful people say: "we're HERE... because you were THERE!"

Each one of these people is alive today because someone gave blood.

If you've given blood before, you know how easy it is—how quick and painless. And you know what a wonderful feeling it is when you realize that what you've done may give another person his life.

Now you are asked to give blood . . . again and again. And you can do it safely every 3 months.

Because America's need for blood has increased enormously—for our armed forces, for accident and disaster victims at home, for new disease-fighting serums.

Many a life hangs in the balance! Will you help? Call your Red Cross, Armed Forces or Community Blood Donor Center today!

BUSINESS EXECUTIVES CHECK THESE QUESTIONS

If you can answer "yes" to most of them, you—and your company—are doing a needed job for the National Blood Program.

- ◯ HAVE YOU GIVEN YOUR EMPLOYEES TIME OFF TO MAKE BLOOD DONATIONS?
- ◯ HAS YOUR MANAGEMENT ENDORSED THE LOCAL BLOOD DONOR PROGRAM?
- ◯ HAS YOUR COMPANY GIVEN ANY RECOGNITION TO DONORS?
- ◯ HAVE YOU INFORMED EMPLOYEES OF YOUR COMPANY'S PLAN OF CO-OPERATION?
- ◯ DO YOU HAVE A BLOOD DONOR HONOR ROLL IN YOUR COMPANY?
- ◯ WAS THIS INFORMATION GIVEN THROUGH PLANT BULLETIN OR HOUSE MAGAZINE?
- ◯ HAVE YOU ARRANGED TO HAVE A BLOODMOBILE MAKE REGULAR VISITS?
- ◯ HAVE YOU CONDUCTED A DONOR PLEDGE CAMPAIGN IN YOUR COMPANY?
- ◯ HAVE YOU SET UP A LIST OF VOLUNTEERS SO THAT EFFICIENT PLANS CAN BE MADE FOR SCHEDULING DONORS?

Remember, as long as a **single** pint of blood may mean the difference between life and death for **any** American . . the need for blood is **urgent!**

NATIONAL BLOOD PROGRAM

GIVE BLOOD

...give it again and again

CLASSIFIED SEARCHLIGHT SECTION ADVERTISING

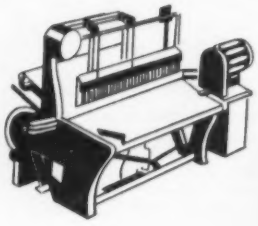
EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESALE

UNDISPLAYED RATE:
$1.20 cents per line, minimum—3 lines. To figure advanced payment count 5 average words as a line.
POSITION WANTED AND INDIVIDUAL SELLING OPPORTUNITY WANTED undisplayed advertising rate is one-half of above rate, payable in advance.
PROPOSALS, $1.20 a line an insertion.

INFORMATION:
BOX NUMBERS care of publication count as 1 line additional in undisplayed ads.
DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).
EQUIPMENT WANTED OR FOR SALE Advertisements acceptable only in Displayed Style.

DISPLAYED RATE:
The advertising rate is $12.65 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.
AN ADVERTISING INCH is measured 7/8 inch vertically on one column, 3 columns—30 inches —to a page. T.W.

SEND NEW ADVERTISEMENTS TO: N. Y. Office 330 W. 42nd St., N. Y. 36, N. Y. for the August issue closing July 15th.



SEARCHLIGHT Equipment Spotting Service

NO CHARGE • NO OBLIGATION

This service is aimed at helping you, the reader of TEXTILE WORLD, to locate used and surplus new textile machinery and equipment not currently advertised. (This service is for user-buyers only.)

Just send in the specifications of the equipment wanted on the coupon below, or on your own company letterhead, to

Searchlight Equipment Spotting Service
c/o Textile World
330 W. 42nd St., N. Y. 36, N. Y.

Your requirements will be brought promptly to the attention of the used equipment dealers advertising in this issue. You will receive replies directly from them.

Searchlight Equipment Spotting Service
c/o Textile World
330 W. 42nd St., New York 36, N. Y.

Please help us locate the following used equipment:

.....

.....

.....

.....

NAME..... TITLE.....

COMPANY.....

STREET.....

CITY..... ZONE..... STATE.....

7/53

WANTED
WORSTED TEXTILE DESIGNER

A leading firm has a very attractive opening in New York City for a young man as designer of worsteds with a knowledge of fabric construction. This is a splendid opportunity with excellent prospects for advancement. Reply in detail including previous experience, age, references and education to

Charles P. Raymond Service, Inc.
294 Washington St.,
Boston 8, Mass.
Telephone Liberty 2-6547
All replies will be held in strictest confidence.

POSITION VACANT

Pile fabric mill has opening for Textile School graduate interested in fabric development and research.

P-8270, Textile World
330 W. 42 St., New York 36, N. Y.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

(Additional Positions Vacant Advertisements on the opposite page)

SPINNING MILL Superintendent—Experienced Superintendent capable of supervising cotton yarn production, 19000 spindles Carded and Combed knitting yarns. Excellent opportunity for future with old established Company. Give full details as to age, experience, education, salary requirements, etc. P-8250 Textile World.

ASSISTANT TO Executive, handle complete line all synthetic fibers catering to cotton and woolen mills. P-8263, Textile World.

WANTED PRINT Works Superintendent thoroughly familiar with Printing and Colors. Must also have knowledge of Plisse Printing, Finishing and Dyeing. P-8279, Textile World.

MAN, ACQUAINTED with loom operation wanted to assist in managing weaving operation. Please give complete details of experience and salary expected. This opening offers an excellent opportunity for the right man. P-8298, Textile World.

WANTED—SUPERINTENDENT Cotton Spinning and Weaving Mill located in the South. Address P-8311, Textile World.

POSITIONS WANTED

WOOLEN SUPT. desires change. Experienced in all depts. Know wools, stocks, etc. Capable modern plant layout to expedite production. Keen on lowered costs. Would consider Manager, Supt. or any position related to woolen manufacturing, or wool products with opportunity for advancement. 22 years experience in several mills. PW-8155, Textile World.

THROWING SUPERINTENDENT, employed at present as superintendent of a throwing plant, desires connection with a reputable concern that is in need of a man with a good sound knowledge in throwing silk, rayon or nylon yarns, that can assume full responsibility, decrease mill cost, increase quality and production having a good labor relations record. Married, references. PW-7892, Textile World.

(Continued on the opposite page)

INCREASED PRODUCTION AT LOWER COST
in this money-saving liquidation of
WEAVING & THROWING EQUIPMENT & SUPPLIES

• AVAILABLE FOR IMMEDIATE DELIVERY • AT A FRACTION OF ORIGINAL COST

NEW ATWOOD UNIRAIL Model #501 Dbl. Deck
NYLON TWISTERS
28—184 spindles ea. 12—220 spindles ea. Erected, but NEVER USED. Brand new take-up shafts, spindle bobbins and stainless steel bobbin, trays for Nylon.

48—C&K-S-6—56"
1949-1950 LOOMS
LIKE-NEW CONDITION
LOADED WITH ACCESSORIES
Complete with beams, heddles, quills, harness frames, etc. 56" between swords, 2 x 1 box, 20 harness Dobbies 15/32 guage double index. 1 HP G.E. motor. Roller bearings crank and bottom shafts. Warp stop 6 bank KA elec. 3 shift Veeder Root pick counters and cut meters.

7—1949 ATWOOD MOTORIZED REDRAWS
High speed. 68 spindles ea. 1 lb. or ½ lb. pkge.

1—1951—860 END CONE CREEL
Sipp Eastwood. Magazine type to take 4 lb. cones.

120 Spindles 1952 Universal #250 Nylon Sizing Machines
50—Universal #50 Coners for Nylon
Rebuilt. Roller bale pineapple attachment. 3-30° gear gain boxes. L-drive. Anti-wear tensions. Motorized. 6 spindles per machine.

8—1948 ATWOOD D.D. TWISTERS
Mod. #110. Motorized. 208 spindles ea. 1 lb. pkge.

1—1951 SIPP EASTWOOD WARPER
101" horizontal. To take 28" flange beam.

1—1946 COCKER WARPER
For 21 x 21 beams. 14 yard let-back, rheostat and variable speed drive. Motorized.

24—SPINDLES—Whitin Schweiter
1948-49. Auto. quilling. Take 10 ⅛" bobbins.

Rebuilt FLETCHER SAMPLE LOOMS
Made to order.

COMPLETE MARKOW FABRIC PARTS DEPT. FOR
• Fletcher Looms • #10 Universal quillers
• Weights • Battens • Beams
• Heddles • Drop-wires

All items subject to prior sale WRITE—WIRE—OR PHONE, TODAY!

Wm. Rabinowitz & Sons
TEXTILE MACHINERY, BOBBINS & SUPPLIES
214 - 222 Hamilton Street Phone HEmlock 3-7497 3-7498 Allentown, Pa.

POSITIONS WANTED
(Continued from opposite page)

MACHINIST, Knitter-Mechanic, builder of various types of knitting machines wishes to relocate as foreman, master-mechanic, consultant. Locate anywhere. PW-8150, Textile World.

TEXTILE ENGINEER alert experienced in manufacturing synthetic fabrics, processing, developing, and planning including quality and cost control. Sales promotion minded. At present employed. Married. Able to adjust local or foreign surroundings. PW-8122, Textile World.

TEXTILE ENGINEER (27) with excellent references, univ. grad., five languages, desires supervising position in weaving, dyeing or worsted mill. Experience in designing and selling of cloth. PW-8293, Textile World.

AVAILABLE IN two weeks—Knitting Mill Superintendent. Complete knowledge of dyeing, knitting, cutting, sewing, and shipping. Have good production record and good reference. PW-8354, Textile World.

WANTED—POSITION as manager or superintendent for combed or carded cotton mill. College graduate textiles, experienced in manufacturing, cost and industrial engineering. Now employed as superintendent of a progressive combed yarn and weaving mill in South. PW-7795, Textile World.

PROFESSIONAL SERVICES

EATON & BELL
Patent Attorneys
904 Johnston Bldg., Charlotte, N. C.
1149 Munsey Bldg., Washington, D. C.

PLANT ENGINEER
WANTED
Experience in textile finishing plant required. Must be 45 or less, capable of supervising maintenance work, with imagination and knowledge necessary to design and improve plant machinery.
P-8274, Textile World
330 W. 42nd St., New York 36, N. Y.

WANT TO TRAVEL?
Have opening for textile school graduate or young man with good textile background.
Seeking representative to act as service and sales engineer for manufacturer of cloth finishing machinery.
State qualifications.
RW-8187, Textile World
330 W. 42 St., New York 36, N. Y.

Textiles mill of Barranquilla, Colombia, South America, in full activity, request U. S. investors to enlarge the factory with new equipment of machinery. Will turn management to the new investors. Write for details to:

"TEXTILES ATLANTICO, LIMITADA"
Apartado Aereo No. 437
Barranquilla, Colombia

MEN WANTED
POSITIONS OPEN

We can place—SUPT. worsted cloth mill; garnett supts., foremen and fixers; worsted yarn supt.; woolen yarn supt.; asst. mgr. rayon weav. plant; asst. supt. worsted yarn mill; designers for woolen, worsted, synthetic yarn and automotive fabrics; synthetic fibre asst. executive (N. Y. position.)

OVERSEERS for woolen card. and spin. combined; cot. card., spin., wind. and warp. (foreign); worsted draw., card. and comb.; worsted dress.; woolen finishing; plush finish.; put-up dept.; woolen card.; finish. synthetic yarn fabrics (foreign); woolen dress. and spool.; picking; worsted slash. and warp.

SECOND HANDS for woolen card.; woolen frame spin.; knit goods cutting and sewing; raw stock dye.; cot. spin.; cot. slash.; plush finish. Section hands worsted draw.

MASTER MECHANICS and millwrights; mech. designers and draftsmen; chemists, chem. engineers and laboratory men; chemist vinyl coated fab.; electrical supervisor; mechanical engineers; belting salesman northern New Eng. territory; woolen dresser tenders; time study men; cost accountants. Fixers for Grosser; latch needle and baby shaker machines; fixer woolen spin. frames; mule fixers; loom fixers; cot. card grinders; jacq-loom fixers; fixer industrial fab. looms (foreign); warp starter.

LIST YOUR CONFIDENTIAL APPLICATION WITH US to keep informed of attractive positions open in the textile mills. SEND US YOUR RESUME.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St. Boston 8, Mass.
Telephone Liberty 2-6547
Specialists in Placing and in Supplying Textile Mill Executives

FOR SALE

COMPLETE RAYON SPINNING UNIT

Installed in 1951 and 1952
Saco Lowell — Latest Type

Includes Opening, Picking, Carding, Drawing, Roving, Spinning, Coning, Winding, and Laboratory Equipment.

6336 Spindles — Saco Lowell Z-2 WW Frames
24 Frames of 264 Spindles each
2¼" Ring, 4" Gauge, and 9" Traverse

USED EQUIPMENT – AVAILABLE IMMEDIATELY

GESSNER TEASEL GIG and BRUSH RANGE — Item GTG-B
New 1948—Used 3 Months
68" Working Width

HUNTER CARBONIZING TANK — Item HCT-J
Lead-lined Cypress tank
Fittings acid resisting metal
Nip Rolls rubber covered
90" Wide—Never used

SACO LOWELL COTTON SLASHER — Item SLCS-E
Complete with auxiliary equipment
Including Model D High Speed Warper
Regular Width—Beam type

COLLINS & AIKMAN CORP.

SALES & SALVAGE DIVISION

5th and Upland Avenue — PHONE CHESTER 3-4167 — Upland, Delaware Co., Pa.

LIQUIDATING

RIVERVIEW FINISHING CO., PATERSON, N. J.

1—3-Roll 68" Hydraulic 50 Ton Calender
1—3-Roll 65" V. V. Calender
1—Hinnekens Boil Off, new 1948
2—58" Hermas Meas. & Inspect. with reverse
1—45" Measurgraph Inspect., & Double
1—V. V. 54" Embosser, 2 Roll
5—12' S. S. Dye Becks
1—V. V. Decatizer 53"
2—Tenter Frames 40'-50' S. S. Clips
1—V. V. 3-Roll Calender 45"
3—Beamers 76"-55"-50"
2—Copper Jacketed Mixers, 200 gal. & 75 gal.
1— 50" Padder—2 rubber rolls
1—50" Button Breaker
1—68" Progressive Hyspeed Exam. & Measuring Mach. with reverse
2—Merrow Sewing Machines
3—Extractors, 2—60", 1—48"
1—V. V. 50" Scutcher
3—76" all S. S. Jiggs
1—V. V. 64" Palmer & Quetch
6—Textile Squeeze Sets, 96" long, 2 rubber rolls 19" and 12" Dia. roller bearings
1—set 8 Copper Dry Cans 84"x23"
1—set 9 Copper Dry Cans 72"x23"
1—set 6 Copper Dry Cans 50"x30" dia.

FOR ALL INFORMATION—WRITE, WIRE OR CALL

A & M BLANK CO., INC.

301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.
SHerwood 2-1367-8

BRASS PIN-PLATES All Sizes

PUT YOUR PIN TENTERS IN TIP-TOP CONDITION
● Pins in Stainless, Monel, Plain Steel.
All Diameters Any Length
SEND US OLD PLATE FOR QUOTATION

SOUTHERN TEXTILE WORKS
P. O. BOX 404 ANDERSON, S. C.

FOR SALE
1 #45 Atwood Twister
100 spindle capacity
3½" flyers
1 #235 Benjamin Eastwood Silk Winder
64 swifts capacity
Both machines are offered FOB Rochester, as is, subject to prior sale. Will accept any reasonable offer.
THE SCHLEGEL MANUFACTURING CO.
Rochester 7, New York

New "Searchlight" Advertisements

received by July 15th appear in the August issue, subject to space limitations.

Address copy to the Classified Advertising Division

Textile World
330 West 42d St.,
New York 36, N. Y.

HOSIERY MACHINES
used and rebuilt
KNITTERS—RIBBERS—LOOPERS
CYLINDERS—DIALS—TRANSFERS
HOSIERY NEEDLES AND PARTS
JOS. BRESANI
N. W. Cor. Hancock & Somerset Streets
Phila. 33, Pa.

WORLD'S LARGEST INVENTORY

MOTORS—GENERATORS—TRANSFORMERS
New and Guaranteed Rebuilt
1 H.P. to 2500 H.P.
ELECTRIC EQUIPMENT CO.
P. O. BOX 51, ROCHESTER 1, N.Y.

FOR SALE

PARTIAL LIST IMMEDIATE DELIVERY

SPONGING & FLAMEPROOFING

1—National 6 Fan LOOP DRYER 80".
1—Mawoco SQUEEZE SET, Double Dip 68".
1—Mawoco LONDONIZER 72".
1—Mawoco SEMI-DECATUR, Double Cyl. 75".
1—Windle DOUBLER 60".
2—Cavalla HEBDONS 72".
1—Hermas INSPECTOR 56".
1—ROLLING Machine TUBE 67".
1—MEASURING Machine.

COMPLETE MACHINES from WAREHOUSE STOCK

1—Simpson BATCHER 54" with Cutoff Knife.
2—P&W STEAMING & BRUSHING units 4 roll 66"-68".
1—P&S CARD Single Cyl. Pin Lagged 60".
30—Schlumberger Delete WOOL COMBS.
1—D&F TAPE CONDENSER 60".
1—E. Gessner SEMI-DECATUR 72".
1—P&W SEMI-DECATUR 72".
1—C&M DEWING Unit 72".
1—P&W DOUBLER 66".
1—Hunter CONE DUSTER 6'.
1—Schofield CONE WILLOW 6'.
1—Tolhurst EXTRACTOR 48".
2—Harwood PICKER FEEDS 48"-60".
2—C&M CEILING FOLDERS 96".
1—D&F NAPPER GRINDER 80".
1—C&M INSPECTOR 96".
1—Morrison KIER PILER, Portable.
6—C&K W3 LOOMS 76" Automatic.
23—C&K W2 LOOMS 82" Automatic.
36—C&K W1 LOOMS 82" Automatic.
18—C&K LOOMS 92" Automatic.
1—Hermas Measurer 48".
1—D&F NAPPER, S.A. 14 roll 72".
1—Woonsocket NAPPER, S.A. 12 roll 80".
1—Woonsocket FELTER NAPPER 22 roll 80".
2—Gessner NAPPERS D.A. 18 roll 78"-90".
1—D&F NAPPER D.A. 24 roll 86".
1—C&M FEARNAUGHT PICKER 48".
1—D&F FEARNAUGHT PICKER 48".
1—Voelker CLOTH PRESS 66".
1—Gessner CLOTH PRESS 66".
1—Van Vlan QUETSCH 65".
1—Howe Weightograph SCALE 1800-lb.
1—P&W SHEAR 4 Blade 60".
1—C&M SHEAR Single 66½".
1—P&W SHEAR Double 66½".
1—P&W SHEAR Model A 66½".
2—Whitin Wool Spinning Frames 4" Gauge.
2—SQUEEZE SETS 3 roll 60".
3—SQUEEZE SETS 2 roll 18".
2—Birch TACKING & SEWING 88".
3—Schiffer TEASEL GIGS 66".
1—Foster CONE WINDER 40 Spindles.
1—Foster CONE WINDER 100 Spindles.
1—Foster TUBE & CONE WINDER 60 Spindles.
2—D&F WARP REELS, H. D. 92".

John T. Slack Corp.
Springfield, Vt.

Valuable real estate, water power sites, machinery and equipment in its entirety or in parcels.

McDOWELL ASSOCIATES, Inc.
2568 Park Avenue — Bronx 51, New York
Tel.: MElrose 5-6741

FOR SALE
USED
SINGER SEWING MACHINES
Like new—lock stitch
All with stand

4—45K87	Hand Feed
1—68SV63	½ x 5/8 block size automatic
1—68SV272	¾ x 1¾ block size automatic
1—68SV300	¾ x 2 block size automatic
1—68SV212	1½ x 1¾ block size automatic
1—68SV213	1½ x 1¾ Criss Cross automatic
1—68SV235	¾ x ¾ with Criss Cross

DURKEE-ATWOOD COMPANY
215 Seventh Street N. E.
Minneapolis 13, Minnesota
Tel. MAin 0441

1—Cottage Steamer 30' long W/2 carriages
1—Van Vlaanderen Pneu. Embossing Calender, 54" Treebark, 7 ton
1—Textile Friction Calender, 54" wide, 40 ton, motorized screw
1—Perkins Hydraulic Schreiner Calender, 60" wide, 100 ton
2—Van Vlaanderen G.L. Rope Washers, 18 compts. Age 1948
1—Butterworth Pneu. Padder 56" wide, 15-ton, 1946
1—Van Vlaanderen Pneu. Padder, 3 rolls, 65", 5 ton, 1946
1—Set Copper Dry Cans, 23 cans, 60" wide x 23", bucket
2—V.V. Tenter Frames 50' x 40' long x 60" wide, motor
1—Vacuum Extractor 50" wide W/Nash L4 pump, 10 hp motor
1—Rodney Hunt Stainless Steel Open Width Tensitrol Washer, 5 compts. 60" wide, 5 sets of nip rolls, 1948
1—Stainless Steel Vat Ager, 30' long x 70" wide, 1948
1—Hermas Shearer & Batcher, 4 blades, 60" wide, ind. motors
1—Cocker Slasher, 7 drums 60" x 33", complete. Age 1951
1—Entwistle Hi Speed Warper 54" W/magazine cone creel 960 ends
64—Crompton & Knowles S5 Looms, 56", Age 1941, operating
48—Crompton & Knowles W3 Looms 82", 25 harness, motor. Age 1946-9
12—Whitin Twisters 4" ga. 2½" ring, tape drive, 228 spdls.
56—Whitin Cards, 40" wide, 27" doffer, 12" coiler, 100/110 wire

Rice, Barton & Fales Roller Print Machines For Sale
10 colors—50", 8 colors—48", 8 color—66". Rice, Barton & Fales Hydraulic Mandrel Jack Stainless Steel Vat Ager 30' long x 70" wide

Telephone #Cortlandt 7-1591

REPUBLIC TEXTILE EQUIPMENT CO.
40 WORTH STREET / NEW YORK CITY
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL

S&K **Where your $$$$ buy MORE**

TERRELL BOBBIN STRIPPER
78—S3 AUTO C&K LOOMS 52" 2x1
12—24 XK AUTO DRAPER LOOMS 52½ A.S.

1 3 Color-60" Print Machine
3 Hercules 48"-60" Extractor
300 Auto Drapers 43" to 76" cloth
16 C&K Auto Bob Changers 2x1—72" R.S.
12 C&K 4x4—54" R.S.
40 C&K Woolen Looms 72" to 110" R.S.
1000 Electro Rods 66" to 133"
1 V.V. 40'-60" Tenter Frame, Enclosed Gears
1 V.V. 60'-66" Palmer Tenter, Unit, Complete
1 36" Self Balancing Extractor
1 W&J Tenter Frame 90" W 30' L
1 W&J Tenter Frame 54" W 30' L
1 2 Roll 60" Quetch—V.V.
1 Set of 8—68" Copper Cans
1 New 80½ Beamer
1 60" wide Pin Tenter Frame 60'—W&J
1 Paterson Examiner, 72" wide
1 72" Park Woolson Decater
6 Dye Boxes S.S. lined 8'—10'—12'
1 Jostrom fabric conditioner 64"
1 19 can Butterworth dryer 72"
3 V.V. Button Breakers 1—60" 2—50"
4 Three (3) Roll Padders 45"
30 50" Dry Cans
4 Johnson Slashers—7—5—3 Can 66"
2 90" S.S. Jiggs
4 50" S.S. Jiggs
1 72" Greige Washer with Squeeze Rolls 24' long
5 Atwood 5B Twisters
9 Atwood Single Deck Utility Spinners
8 Sipp Warpers and Winders
20 #90 Universals
4 Oswald-Grundy 46—Spindle Cop Winders
5 Foster-Coners 75A
Hy-speed Sippwarper

STAVE & KESSLER
106 KEARNEY ST. P. O. Box 1611 Paterson, N. J.
Phone ARmory 4-7486

6—U. S. TEXTILE ACME DOUBLERS
100—S3 LOOMS C & K—56" & 58" LARGE SHUTTLES
1—H&W YARN CONDITIONING BOX
100—NO. 50 UNIVERSAL CONERS GEAR GAINERS "A"—"L" DRIVES S. S. ROLLS—TROUGHS—PINEAPPLE
15—ATWOOD REDRAWS 1 LB CAP—GATE TENSIONS FINGERS TAKE 4" HDS
100M—FIBRE HEAD SPOOLS 4 9/16" TRAV. X 3" HD
30—UNIVERSAL NO. 250B SIZING MACHINES

PENNSYLVANIA SPOOL & EQUIPMENT CO.
530 N. FULTON ST. ALLENTOWN,PA. Phone 3-7545

at your
BUSINESS
service:

The Classified Advertising Sections (Searchlight Sections) of McGraw-Hill publications are at your service for the satisfying of almost every business need or want.

Because these publications are specialized in the field that they cover, your classified advertising of used or surplus new equipment, of securing a position or personnel, of offering or securing business opportunities will reach the right men, quickly and economically.

Classified Advertising Division

McGRAW-HILL PUBLICATIONS, Inc.
330 West 42nd St. New York 36, N. Y.

MILLER MACHINERY CO.
66 RAILROAD AVE. PATERSON, N. J.
Tel. Sh 2-5467-8

Textile Machinery and Supplies
BOUGHT AND SOLD
Warpers • Winders & Quillers
Looms

FOR SALE
1—Rodney Hunt Slack Loop Washer #2507, Stainless Steel, including motor 220V, 3ph, Price.....$2500.00
15—Stainless Steel Rollers, 5"x72", ⅞" Shafts Price.....$20.00 Each
R. A. BRIGGS & CO.
LAKE ZURICH, ILLINOIS

FOR SALE
VULCANIZED FIBER ROVING CANS
2 run 50% virgin wool 50% rayon yarn. Orlon virgin staple fiber.
FS-8304, Textile World
330 W. 42 St., New York 36, N. Y.

WANTED

DYESTUFFS
Will buy your surplus and obsolete dyes and chemicals for cash.
NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.
Established 1919

WANTED
MILL OUTPUT
Converter seeking modern Southern Drapery and Upholstery mill with 4 x 4 and automatics looms, Jacquards, fine index and regular.
W-8240, Textile World
330 W. 42 St., New York 36, N. Y.

LOOP DRYER WANTED
Preferably gas heated. Send full description and price.
W-8244, Textile World
330 W. 42 St., New York 36, N. Y.

If there is
Anything you want . . .
that other readers of this paper can supply
or—
Something you don't want
that other readers can use, advertise it in the
SEARCHLIGHT SECTION

LIQUIDATION for immediate removal

DYEING and FINISHING MACHINERY in EXCELLENT CONDITION

Located at Celanese Corporation, Cumberland, Md.

40— All stainless steel dye jiggs 50"-60" widths, complete with stainless steel idler rolls, tilting expanders, motor driven.
30— Stainless steel dye becks 4' to 12' wide, stainless steel reels, rake beams, pony reels, motors and drives.
2— Morrison 90' x 54" tenter frames, enclosed gears, ball bearing, all latest attachments. Enclosed with 75' Andrews & Goodrich housing.
1— Textile Finishing machine tenter frame, 75' long by 104" width. Electric guiders, variable speed drive.
1— Hinnekins 60' x 64" pin tenter, electric guiders, variable speed drive. Enclosed by 35' housing.
1— Andrews & Goodrich pre dryer, complete with air fin heating units, blowers, etc. 10½' long by 7½' wide.
1— Morrison jacketed Palmer 66" x 60" diameter main cylinder, anti-friction bearings, 25" diameter blanket cylinder, blanket straightener, synchronized with 2 roll 65" quetch, with 7" diameter brass rolls in anti-friction bearings, complete with compensator and gas burners.
1— K & G 54" silk embossing calender, top roll steel 7¼" diameter, bottom roll paper 14½" diameter, variable speed drive, lever pressure.
1—2 Roll Hydraulic Embossing Calendar, 54" wide; Top roll, steel, steam heated, 10" dia; Bottom roll, paper, 20" diameter.
1— Calender 52" face, 2 steel gas heated rolls 12" diameter, anti-friction bearings, variable speed drive.
1— 60" 2 roll calender, pneumatic pressure, top roll 20" diameter paper, bottom roll steel steam heated 14" diameter, variable speed drive.
2— V. V. 52" Moire tracers complete with motor drive.
1— 60" 2 roll padder top roll rubber covered 11" diameter, bottom roll brass 10" diameter, rolls in anti-friction bearings, stainless steel dip pan, idler rolls, with extra set of 7" diameter squeeze rolls, rubber expander rolls, variable speed drive.
1— 4 compartment stainless steel washer, 8½' long, 66" wide, 33" deep with rubber expander rolls, 4 stainless steel carrier rolls arranged for motor drive.
1— Boil-off machine, 2 section, inside dimensions 58" wide x 14" deep, 12' long and 7' long, 23" diameter stainless steel drum, conveyor and stainless steel idler rolls, rubber expanders, 3 motors & pumps.
1— Stainless steel boil-off machine, single compartment, inside dimensions 62" wide, 30" deep, 12' long, 23" diameter stainless steel cylinder, rubber expanders, stainless steel idler rolls, 2 motors & pumps.
2— Calender roll grinders.
950— All aluminum shells, 50" wide, 1½" sq. bar.
8— Hermas tubing and examining machines, examining boards, 61" x 24", reversible, measuring clocks, motor driven.
50— Stainless steel dye house trucks.
2— 60" shearing machines, 4 blades, motors & hoods.
1— Tolhurst 60" extractor, tin copper basket, safety cover, side motor.
Also various pumps, tanks, sewing machines, hoists, blowers, etc.

INSPECTION BY APPOINTMENT

SOUTHERN OFFICE

IPA SOUTHERN, INC.

610 S. CAROLINA NAT'L BANK BLDG.
GREENVILLE, S. C.
Phone: 2-3561

NORTHERN OFFICE

IPA INDUSTRIAL PRODUCTS OF AMERICA

140 MARKET STREET, PATERSON, NEW JERSEY
PHONE: SHERWOOD 2-6614 CABLES: TEXINDUS

FOR SALE

A. 4 Atwood 5B Twisters, 5" gauge, 100 spindles each, 2 of them motor driven and 2 of them belt driven. Price very reasonable.

B. 10 Universal #90 Quillers for rayon with bunch builders. For each 4 machines, 1 motor.

C. 1 Fletcher Extractor 30" stainless-steel basket, brand new, never been used.

D. 1 Johnson 3 arm stainless-steel brand new tinting machine with all controls complete.

E. 2 Hand-Knitting yarn balling machines in first-class condition.

F. 6 Rewinders, Sipp-Eastwood and Atwood.

G. 25,000 Fletcher Uptwister take-up spools.

H. 10,000 Winding spools for Uptwisters, 4 ounce size.

I. 25 Westinghouse 3 h.p. motors, 440-60-3, 1750 R.P.M. Frame 224, type C. S. Ind.

CONCORDIA MFG. CO. INC.
59 Foundry St.
Central Falls, R. I.
Phone Pawtucket 3-6540

BIALEK'S BEST BUYS

DRAPER "XD", 50", DOBBY, 1947-1952

C & K, W-3, 82", 1951, 4 x 1 CONV.

COCKER 9-DRUM SS SLASHERS
WHITIN AUTO QUILLERS
DRAPER "XD", 44"
C&K, C-4, 74", 78"
ATWOOD 10-B TWISTERS
HALTON 1304-JACQUARDS

S-3, 2 x 1, 56" AUTO. SHUTTLE CHANGE
C & K, 2 x 1, 54", AUTO BOBBIN CHANGE
DRAPER, 72", 2 x 1 FILLING MIX

THEODORE BIALEK & CO.

396 STRAIGHT ST.
PATERSON, N. J.
LAMBERT 3-5886

6704 EMPIRE STATE BLDG.
NEW YORK 1, N. Y.
LONGACRE 3-4978

TEXTILE AUXILIARIES

FOR SALE — IMMEDIATELY AVAILABLE

Partial Listing—Excellent Reconditioned Machinery in Stock

1—50" Hope Pentograph, Reconditioned.
1—60" 2 Roll Padder, Rubber & S/S 10" Rolls S/S Pan.
2—72" 3 Roll Padders, 12" Rubber B.B. Rolls S/S Pan.
1—60" Quetsch, Rubber & Brass Rolls, S/S Box, Vacuum Slot, Expanders Etc.
1—50" V.V. Semi Decater, Nash Hytor L-4 Pump, Blanket, Motors.
1—DeLaval 2000 GPM Motor Driven Pump, 100 ft. Head, 10" & 6" Openings, Driven on Common Base by 60 HP C.W. Motor 220/440, 1725 R.P.M.
1—60" 50" Butterworth Tenter, W. & J. S/S Clips, P & S Housing.
Also Available—Dry Cans, Dye Jiggs, Open Washer Range, Calenders, Kiers, Heaters, Pumps, Motors, Tenter Chain, Etc.

WRITE—WIRE—PHONE—FOR COMPLETE LISTINGS

Office & Warehouse 146 West River St.
Telephones DExter 1-9650 DExter 1-8837

PROVIDENCE, R. I.

REBUILT MACHINERY FOR IMMEDIATE DELIVERY

1—72" Parks & Woolson Decatizer, Pump & Motor.
1—Butterworth Clip Tenter 40' x 72", Stainless Clips, Reeves & Motor.
1—Hinnekens, 60" Variable Speed Examining & Tubing Machine.
1—Elliot & Hall 54" and 60" Flat Folders.
2—W.J. Tenter Frames, 30' x 54".
1—W.J. Tenter Frame, 30' x 96'.
1—3 roll silk or rayon Calender, M.D.
1—42" Self Balancing Extractor, M.D.
2—150 gal. Jacketed Kettles with agitators.
1—Set of 21-72" x 23" Dry Cans Horizontally.
1—72" Hydraulic Padder, M.D.
1—Set of 9—20" x 60" Heavy Steel Dry Cans.
1—50" V. V. Button Breaker.
1—Johnson 7 Can Slasher.
1—64" Van Vlaanderen motor driven Tuber.
1—60" Verduin 40 ton Hydraulic Calender.
2—60" motor driven Beamers.
4—Hermas measuring & inspecting machines, tube to tube.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
30-60 gallon copper steam jacketed Kettles.
1—Hinnekens Boil-off Machine.
1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
About 5,000 S. S. high speed V. V. Clips.
Agitators of various sizes.
Motors of various sizes.
New & Used Electric Hoists.

8—60" Verduin, Stainless Steel, Motor Driven Jiggs
2-3 ft. 2-8' 1-10' 1-14' Stainless Steel Lined Dye Boxes
New Copper Rollers 16" x 60" wide, W Bore

SHerwood 2-7666 — SHerwood 2-7667
DOMESTIC — Moe Blank — EXPORT
TEXTILE DYEING & FINISHING MACHINERY
523-525 E. 18th ST. — PATERSON 4, N. J.

UNIVERSAL #50 WINDERS

Pineapple Cone, Emulsion Attachments, Gear Gain, Others, all rebuilt and to your specifications

ALSO

2—Sargent Ballers—11" Gauge
6—Lindsay-Hyde Reels
1—Atwood 10 B Twister
10—Peraltas, 60" and 48"
16—Nappers, all types
4—N.E.B. Braiders, 24 Carrier

GAINES TEXTILE MACHINERY CO., INC.
141 West 17th St. — New York 11, N. Y.

FOR SALE!

2—W&J 90'x50" Tenters
1—Butterworth 40'x50" Tenter
1—Butterworth 5-roll 45" Calender
1—Textile 6-roll 49" calender
2—Singeing Machines, 2 burner, 50" wide
1—6 Compartment 50" Open Washer
1—6 Compartment 42" Open Washer
6—Cloth Folders, 42"-47" Cloth

James E. Fitzgerald — 10 PURCHASE ST., FALL RIVER, MASS.
Telephone 8-5616
SPECIALIZING IN BLEACHING, DYEING AND FINISHING MACHINERY SINCE 1920

PRICED FOR QUICK SALE

40 Cotton Cards, 37"
1 B/C Cheese Creel, VC318
3 Universal Cone Creels
2 H&B Twisters, 5½"g, 4½" ring
1 H&B Tomlinson Waste Opener
10,000 Spindles Tape Drive Conversions
2 Roving Bobbin Strippers
2 S/L Size Kettles
1 Terrell Model L Bobbin Stripper
33 Draper K, 42" looms, Dobbies
10,000,000 Heddles, 10", 11", 12", 13", 14"
20,000 Heddle Frames, all sizes

Loom Parts

Motors, Dobbies, Stafford Cutters, Feelers, Box Fronts, Whip Rolls, Let-offs, Pick Clocks, Stop Motions, spring tops, etc.
Send For List

MACHINERY SALES CORP.
NEW BEDFORD, MASS.
P. O. BOX 560
PHONE 4-7075

Quick ANSWERS to your business problems . . .

HUNDREDS of business problems can be quickly and easily solved through the use of the Searchlight Section of this or other McGraw-Hill publications.

The Searchlight Section is classified advertising; you can use it at small cost, to announce all kinds of business wants of interest to other men in the fields served by these publications. It is the accepted meeting place of men with business needs and the men who can fill those needs.

When you want additional employees or a position, want to buy or sell used or surplus equipment, want products to manufacture, seek new capital or have other business wants—advertise them in the Searchlight Section for quick, profitable results!

The SEARCHLIGHT SECTIONS OF McGRAW-HILL PUBLICATIONS — Classified Advertising

American Machinist
Aviation Week
Business Week
Bus Transporation
Chemical Engineering
Chemical Week
Coal Age
Construction Methods & Equipment
Electrical Construction & Maintenance
Electrical Merchandising
Electrical World
Electronics
Engineering and Mining Journal
E. & M. J. Metal & Mineral Markets
Engineering News-Record
Factory Management and Maintenance
Fleet Owner
Food Engineering
Nucleonics
Power
Product Engineering
Textile World
Welding Engineering

Classified Advertising Division
McGRAW-HILL PUBLISHING CO., Inc.
330 West 42nd Street
NEW YORK 36, N. Y.

All business is specialized

. . . and nothing specializes on your business like your business paper

Here's a smart bird who knows how to sell fast. He *specializes* . . . picks cold customers who are hot prospects!

Specializing is profitable in your business, too. That's why this business paper of yours is so important. It means no frustrating scrounging for facts you need. A whole staff of editors scouts the country for you . . . and lines up new ideas, the facts about new products and materials, the profit slants on your business—in article after article—like a row of sittin' ducks.

And the ads help, too! They talk business . . . your business . . . helping you slice a cost here, an hour there . . . showing you new products, explaining new techniques, telling where to buy what. Like you, all the best informed people in your field read them carefully, clip and file them for reference . . . pass them along. Fact is, there are few ways for people-moving-ahead to get so much data for so little . . . or to find so much *specialized* help anywhere as you get in your business paper every single month.

This business paper in your hand has a plus for you, because it's a member of the Associated Business Publications. It's a paid circulation paper that must earn its readership by its quality . . . And it's one of a leadership group of business papers that work together to add new values, new usefulness, new ways to make the time you give to your business paper still more profitable time.

A copy of this quick-reading, 8-page booklet is yours for the asking. It contains many facts on the benefits derived from your business paper and tips on how to read more profitably. Write for the "WHY and HOW booklet." Room 2710.

McGRAW-HILL PUBLISHING COMPANY
330 West 42nd St., New York 36, N. Y.

One of a series of advertisements prepared by THE ASSOCIATED BUSINESS PUBLICATIONS

DON'T LET WINTER ROB YOU OF PROFITS!

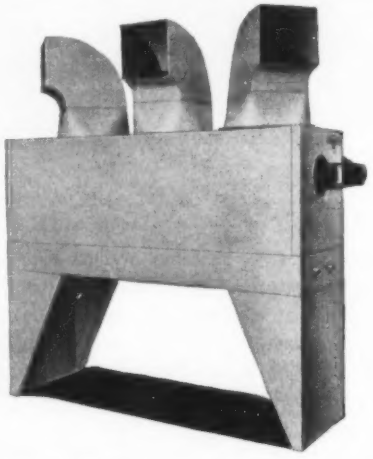
ADVANCE WEATHER FORECAST
Mercury to Drop to Zero.
COLD GRIPS CITY

NOW'S THE TIME TO INSTALL "Buffalo" UNIT HEATERS

Winter can put the "chill" on your plant and people, cutting down production, efficiency, and profits! Why take the chance? "Buffalo" Unit Heaters warm up hard-to-heat corners and areas—at low cost. Compact "Buffalo" heaters are easily and quickly installed. So right now, while it's hot, make sure it's warm in your plant next winter!—Install "Buffalo" Unit Heaters!

BREEZO-FIN

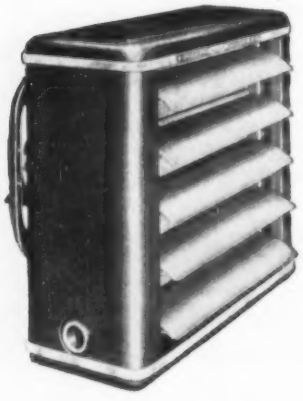
"Buffalo" Breezo-Fin Heaters deliver comfortable heat in small areas and operate economically on as little as 2 lbs. steam. Available in 20 sizes; have high quality copper finished heater element for maximum radiation and "Buffalo" Breezo Fan to throw heat positively. Write for Bulletin 3137.



HIGHBOY

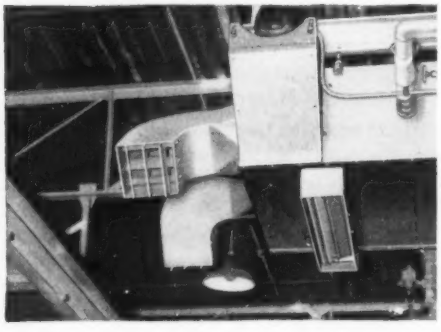
The Highboy is ideal for heating that "new addition" or any large area.

Highboy is easily adapted to your present heating system, since it has adjustable outlets for duct connections and louvers. Unit pictured has "Buffalo" non-corrosive Aerofin heater element and mixed-flow fans on hollow shaft. "Buffalo" can supply arrangements and combinations tailored exactly to your individual needs. Write today for Bulletin 3704.



NO WASTED FLOOR SPACE WITH LOW-BOY!

This suspended model supplies fresh warm, filtered air to an entire room. In addition to its high-efficiency non-corrosive Aerofin heater element, it has "Buffalo" mixed flow fans on hollow shaft. When used as a window installation, it supplies makeup air for plants using large capacity exhaust systems.



FIRST FOR FANS

BUFFALO FORGE COMPANY

184 MORTIMER ST. BUFFALO, NEW YORK

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Sales Representatives in all Principal Cities

VENTILATING FORCED DRAFT | AIR CLEANING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT PRESSURE BLOWING | EXHAUSTING

Index to ADVERTISERS Keyed by PRODUCT

A HELP TO YOU. The reader will find that this unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a surprisingly complete source of information on the latest products and services available to the textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

HOW TO USE. First, look in the table below and find the letter that designates the class of supply or service that you currently need. Then consult in the index the page numbers that are followed by that letter.

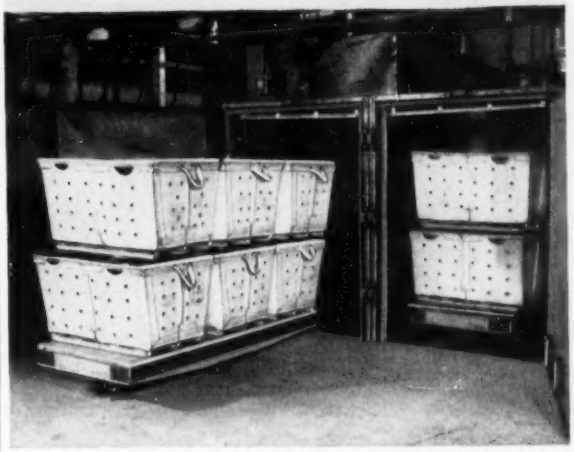
A. Air Conditioning, Air Cleaning
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply
C. Chemicals and Dyestuffs
D. Cleaning Equipment
E. Dyeing, Finishing, and Cloth-Room Equipment and Supplies
F. Electrical Equipment—Motors, Controls, Lighting, Etc.
G. Fibers, Yarns, Mills, Finishing Companies
H. Fluid Handling.—Compressors, Pumps, Piping, Valves, Fittings
K. Instruments: Measuring, Metering, and Weighing Apparatus
L. Knitting-Mill Equipment and Supplies
M. Lubricants and Lubrication Equipment
N. Management Services—Factors, Consulting Engineers, Insurance, Personnel Facilities, Plant Sites, Etc.
O. Materials and components for Machinery and Equipment
P. Materials Handling, Packaging, and Shipping Facilities
Q. Power Generation and Transmission (see also Electrical Equipment)
R. Weaving and Warp Preparation Equipment and Supplies
T. Yarn-Production Twisting, and Winding Equipment and Supplies

An * indicates additional data in the 1952-53 Pre-Filed Textile Catalog. This index is published as a convenience to the reader. Great care is taken to make it accurate, but Textile World assumes no responsibility for errors or omissions.

Alemite Div., Stewart-Warner Corp.	142	M
*Allis-Chalmers Mfg. Co.	51	F Q
American Air Filter Co., Inc.	62	A
American Blower Corp.	84	A
American Crayon Co.	249	E L R
American & Efird Mills, Inc.	260	G
*American Lava Corp.	189	L RT
American Lumber & Treating Co.	210	B
*American Moistening Co.	8	A
*American Monorail Co.	211	D
American Steel & Wire Div.	10	O
American Viscose Corp. (Yarns)	233	G
American Viscose Corp., Textile Chem. Dept.	70	C
*Appleton Machine Co.	231	E
Armco Steel Corp.	223	O
Armstrong Cork Co.	28-29	T
*Atkinson, Haserick & Co.	20 to 23	T
Atlantic Rayon Corp.	224	G
Atlantic Steel Co.	180	O
Bahnson Co.	201	A
Baldwin-Duckworth Div. of Chain Belt Co.	230	Q
*Barber-Colman Co., Textile Div.	255	R
Barnes Textile Associates, Inc.	254	N
*Becco Sales Corp.	157	C
Bemis Bro. Bag Co.	192	P
Benjamin Electric Mfg. Co.	183	F
*Bersworth Chemical Co.	235	C
*Blickman, Inc., S.	247	E
*Booth Co., Benjamin	260	T
Bristol Co.	82	K
Brush Electronics Co.	149	K
*Buffalo Electro-Chemical Co.	157	C
*Buffalo Forge Co.	274	A
Burlington Engineering Co., Inc.	31	E
*Butterworth & Sons Co., H. W.	134	E
*Calco Chemical Div., American Cyanamid Co.	53	C
Caldwell Co., W. E.	259	B E
*Carter Traveler Co., Div. of Carter Inc., A. B.	276	T

for the best in CANVAS Steaming and Conditioning Baskets

LOOK FOR Lane



Designed especially for yarn conditioning, this economical Lane Style 34 Steaming and Conditioning Basket incorporates *all* these quality features for *long, dependable service at extremely low cost:*

- Special extra heavy Lane duck body for extra long wear.
- Light-weight, extra-strong, rust-resistant spring-steel frame with sturdy, hardwood bottom *double* riveted with non-rusting rivets.
- Rust-proof eyelets on all sides allow thorough efficient conditioning.
- Reinforced, rivet-fastened handles for safe moving.

STANDARD SIZES AVAILABLE

No.	Long	Wide	Deep
1½	18"	14"	12 "
2	22"	14"	14 "
2½	24"	15"	15 "
3	24"	18"	15½"
3½	24"	18"	18 "
4	30"	18"	16 "
4½	30"	18"	18½"
5	30"	18"	20½"
6	30"	20"	20½"
8	34"	22"	23 "
10	36"	24"	25 "
12	36"	26"	27½"

Lane canvas baskets, hampers, and trucks are *built to take it, built to last!* There are other canvas baskets, but there's only *one* Lane. *Always* look for the *Lane* mark—*to be sure!*

See your distributor or write . . .

Canvas Basket Craftsmen Since 1894

Lane

THE LANE BASKET

W. T. Lane & Bros., Inc., Poughkeepsie, New York

CARTER TRAVELERS

In every way the CARTER TRAVELER of today is the best traveler we have ever produced. Precision machinery, skilled workmanship and superior materials are not enough. Today — every step of the way — the production of CARTER TRAVELERS is scientifically controlled by a modern metallurgical laboratory.

This scientific control is the reason why CARTER TRAVELERS lead the way to higher spindle speeds—and profits.

CARTER TRAVELER COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA N. C.

REPRESENTATIVES

R. A. Haynes, Special Representative	114 W. Fifth Ave., Gastonia, N. C.
W. L. Rankin	501 S. Chester St. Gastonia, N. C.
P. L. Piercy	128 Hudson St. Spartanburg, S. C.
J. R. Richie	3014 Lewis Farm Road, Raleigh, N. C.
J. W. Brown	P. O. Box No. 560, LaGrange, Ga.
J. K. Davis	P. O. Box No. 129, Auburn, Ala.
C. E. Herrick	44 Franklin St., Providence, R. I.
Hugh Williams & Co.	47 Colborne St., Toronto 1 ,Canada

Celanese Corp. of America, Chemical Div.	48-49	C
Yarn Div.	209	G T
Cen-Tennial Cotton Gin Co.	15	
Century Electric Co.	76	F
Cities Service Oil Co.	174	M
Clark Equipment Co., Industrial Truck Div.	208	P
Cleveland Worm & Gear Co., The	75	Q
C-O-Two Fire Equipment Co.	241	B
Cocker Mach. & Fdry. Co.	54	R
*Cole Mfg. Co., R. D.	220	B E
Columbia-Geneva Steel Div.	10	O
Columbia-Southern Chem. Corp.	37	C
Consolidated Chem. Industries, Inc.	247	C
*Continental-Diamond Fibre Co.	240	P T
*Cook-P & N Machine Co., Inc.	140	E
*Crane Co.	74	H
Crane Mfg. Co.	230	L
*Crompton & Knowles Loom Wks.	13	R
Crucible Steel Co.	71	O
Dana Warp Mills	264	G
*Darnell Corp., Ltd.	216	P
*Dary Ring Traveler Co.	234	T
*Davis & Furber Machine Co.	177	E RT
Dayton Rubber Co., The	78-79	
*Dinsmore Mfg. Co.	257	E
Dolge Co., C. B.	252	B
*Dommerich & Co., Inc., L. F.	18	N
Dow Chemical Co.	167	C RT
*Draper Corporation	1	
*duPont de Nemours & Co., Dyestuff Div.	165	C
Electrochemical Dept.	229	C
Plastics Div.	151	O
Textile Fiber Dept.	57	G
Eisenberg Fibers, Inc.	262	G
Emerson Apparatus Co.	232	K
Engineered Plastics, Inc.	214	T
Falls Yarn Mills	230	G
*Finnell System, Inc.	30	D
Fiske Bros. Refining Co. Lubriplate Div.	238	M
*Foster Machine Co.	77	T
Foxboro Co.	225	K
*Frankl Associates, Ernest L.	246	T
*Fuller Brush Co.	195	T
*Gaston County Dyeing Mach. Co.	138	E
Gates Rubber Co.	14	Q
General Chemical Div., Allied Chem. & Dye Corp.	191	C
*General Electric Co.	42, 66-67	F Q
Globe Dye Works Co.	188	G
Goodrich Chemical Co., B. F.	202	C
Goodyear Tire & Rubber Co.	9	H
Hartford Machine Screw Co.	169	T
*Haskell-Dawes Machine Co., Inc.	222	T
*Hayes Industries, Inc.	38	R
*Heim Co.	40	R
Heineman Corp., O., Div. of Aetna Industrial Corp.	258	G
Hermas Machine Co.	232	F
Hinde & Dauch	182	P
Hunt Loom & Mach. Wks., Inc.	47	R
Hunt Mach. Co., Rodney Industrial Roll Div.	244	F
Textile Machinery Div.	173	E
*Huyck & Sons, F. C.	254	F
Hyatt Bearings Div., General Motors Corp.	213	O Q
Ideal Machine Shops, Inc.	237	T
Industrial Rayon Corp.	185	G
Industrie-Werke Karlsruhe	278	E
*Ives Co., L. T.	242	L
Jenkins Bros.	65	H
*Jiffy Textile Marker Co.	263	E L R
*Johnson Corp.	253	H

Keever Starch Co.	199	C
Kessler Trucking Co.	236	P
Kidde & Co., Inc., Walter	203	K T
*Kidde Mfg. Co.	221	I
Korfund Co., The	262	I RT
Kuljian Corp., The	261	N
*Lambeth Rope Corp.	249	RT
*Lane & Bros., Inc., W. T.	275	P
*Lestershire Spool & Mfg. Co.	184	R
*Link-Belt Co.	7	Q
*Livermore Corp., H. F.	193	R
*Lockwood Greene Engineers, Inc.	24	N
*Loper Co., Ralph E.	262	N
*Lowell Shuttle Co.	200	R
Lubriplate Div., Fiske Bros. Refining Co.	238	M
Lunkenheimer Co.	83	H
Maine Development Commission	58	N
Maple Flooring Mfrs. Assn.	206	B
Marshall & Williams Corp.	250	E
*Mathieson Chemical Corp.	2	C
*McBride Co., Inc., Ed. J.	196	R
*McCaskie, Inc., Wm.	218	R
Mellor, Bromley & Co., Ltd.	190	I
*Merrow Machine Co.	245	E
*Milton Machine Works, Inc.	220	R
Mobilift Corp.	178	P
Moisture Register Co.	226	K
Montgomery Bros.	248	C
*Nash Co., J. M.	251	D RT
National Aniline Div., Allied Chem. & Dye Corp.	17	C
National Carloading Corp.	245	P
National Ring Traveler Co.	261	T
National Tube Div.	10	O
Naugatuck Chemical Div., U. S. Rubber Co.	179	C
N. Y. & N. J. Lubricant Co.	60	M
Nopco Chemical Company	12	C
Oakite Products, Inc.	235	C
Oilgear Co., The	19	H Q
*Onyx Oil & Chemical Co.	85	C
Penick & Ford, Ltd., Inc.	243	C
*Perkins & Sons Inc., B. F.	52	E
Pittsburgh Coke & Chem. Co.	59	C
Pittsburgh Corning Corp.	171	B
Pittsburgh Plate Glass Co., Fiber Glass Div.	187	G
*Platt Bros. (Sales) Ltd.	20-21	T
Potts Co., Horace T.	46	H
Powell Co., Wm.	194	H
Precision Gear & Machine Co.	256	Q
*Prince, Smith & Stells	22-23	T
*Proctor & Schwartz, Inc.	69	E
*Reiner Inc., Robt.	16	I R
Reliance Elec. & Eng'g. Co.	153	F Q
Richmond Oil, Soap & Chem. Co.	232	C
*Riggs & Lombard, Inc.	56	E
*Robert & Co., Associates	2nd Cover	N
*Rohm & Haas Co.	63	C
Rollway Bearing Co.	239	O Q
Rome Soap Mfg. Co.	261	C
*Roy & Son Co., B. S.	259	T
*Royce Chemical Co.	136	C
Ryerson & Son Inc., J. T.	218	O
*Saco-Lowell Shops	6	T
Sandoz Chemical Wks.	39	C
*Sant' Andrea Officina Meccanica	246	T
Scherr Co., Inc., George	263	K
Schlafhorst & Co., W.	11	RT
Schlumberger & Cie.	259	T
Shore Instrument & Mfg. Co., Inc.	260	K
*Simco Co., The	228	E I RT
Sinclair Refining Co.	50	M
*Sipp-Eastwood Corp.	198	T
Sirrine Co., J. E.	3rd cover	N
*Smith, Drum & Co.	61	E
Snap-On Tools Corp.	204	B H
Socony-Vacuum Oil Co.	25	C
Solvay Process Div., Allied Chem. & Dye Corp.	219	C

TC TENNESSEE CORPORATION

SULPHUR-DIOXIDE

HIGHEST QUALITY

SO_2

The chemical with so many uses, Tennessee Liquid Sulphur Dioxide is now available in Cylinders, Ton Drums, Truck Tanks and Tank Cars. The Tennessee Corporation, producers of highest quality Sulphur Dioxide, is located in the textile producing area, assuring closer contact, faster and more efficient service.

★ CYLINDERS
★ TON DRUMS
★ TANK TRUCKS
★ TANK CARS

TC TENNESSEE CORPORATION

Let us consult with you on the many uses of Sulphur Dioxide. Perhaps Sulphur Dioxide can solve some of your problems . . . 'phone, wire or write Tennessee Corporation, Grant Building, Atlanta, Georgia.

TENNESSEE CORPORATION

617-29 Grant Building, Atlanta, Georgia

TC TENNESSEE CORPORATION

For more information, write direct or use Reader Service post card. 277

MAUSER

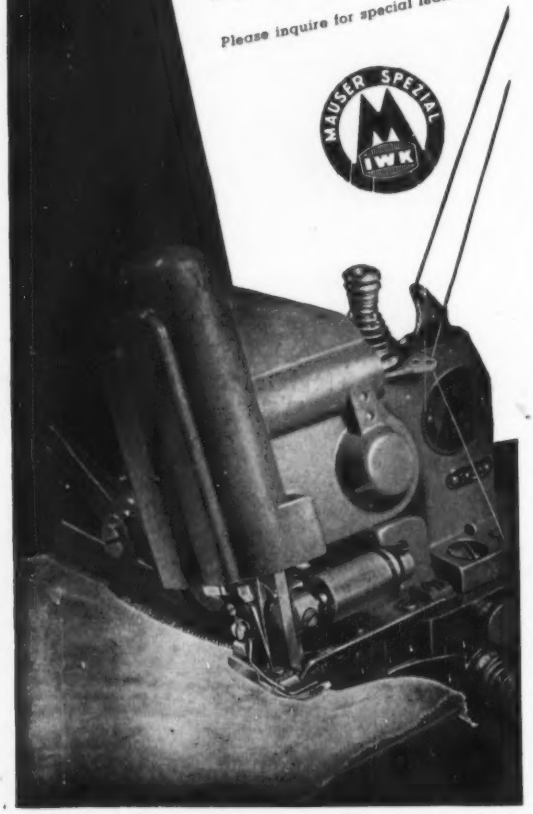
INDUSTRIAL SEWING MACHINES

are Chainstitch and Overlock Machines of world-wide reputation, designed for latest requirements.

The MAUSER Program includes:

- Overlock Machines
- Single Chainstitch Machines
- Double Chainstitch Machines
- Elastic inserting Machines
- Overseaming Machines
- Ornamental Seam Machines
- Bag Sewing Machines
- Cylinder Machines
- Double Feller Feed-off-the-arm Machines
- Flatlock Feed-off-the-arm Machines
- Ribbon Cutting Machines

Please inquire for special leaflets.



INDUSTRIE-WERKE KARLSRUHE

AKTIENGESELLSCHAFT KARLSRUHE, GERMANY

*Sonoco Products Co.	145	T
Southwest Products Co.	258	O, Q
Spaulding Fibre Co., Inc.	147	P
Square D Co.	181	F
*Standard Pressed Steel Co.	251, 264	O
Sterling Electric Motors	222	F
*Stewart Iron Works Co., Inc.	226	B
*Stop-Motion Devices Corp.	249	I
Sun Oil Company	132	C
Superior Combustion Industries Inc.	251	Q
*Supreme Knitting Mach. Co., Inc.	215	L
Sylvania Electric Prod. Co.	44	F
Taylor-Stiles & Co.	228	T
Tennessee Coal & Iron Div.	10	O
Tennessee Corp.	277	C
Texas Co., The	4th cover	M
Texnovo, S. P. A.	256	R
Textile Banking Co.	197	N
*Textile Machine Works	26-27, 86	L
Textile Recorder Exhibitions, Ltd.	257	N
Tide Water Associated Oil Co.	64	M
*Tompkins Bros. Co.	212	L
Torrington Co., The (Needles)	43	L
Torrington Co., The (Bearings)	207	O, Q
Tranter Manufacturing, inc.	186	E, O
Trust Co. of Georgia	253	N
Turbo Machine Co.	5	L
*Twin Disc Clutch Co.	253	Q
*U. S. Ring Traveler Co.	224	T
U. S. Rubber Co. Mechanical Goods Div.	34	Q
Naugatuck Chem. Div.	179	C
U. S. Steel Corp.	10	O
U. S. Steel Supply Div.	10	O
*Universal Winding Co.	158	T
Utica Novelty & Mill Spec. Co.	263	T
*Van Vlaanderen Machine Co.	227	E
*Veeder-Root, Inc.	41	K
WAK Industries	264	K
*Warner & Swasey Co.	32-33	R
*Wayne Mfg. Co.	228	T
Westinghouse Electric Corp. Micarta Div.	80-81	O
Motors & Controls Div.	72-73	F
Sturtevant Div.	205	A
Weston Electrical Inst. Corp.	217	K
Whitehead Engineering Co.	226	T
White Machine Wks.	45	T
Wildman Mfg. Co.	55	L
*Winsor & Jerauld Mfg. Co.	155	E
Wood's Sons Co., T. B.	257	Q

PROFESSIONAL SERVICES

Barnes Textile Associates. 254
Eaton & Bell. 267
Kuljian Corp. 261
Lockwood Greene Engineers, Inc. 24
Loeser & Co., R. E. 262
Robert & Co. Assoc. Second Cover

SEARCHLIGHT SECTION

(Classified Advertising)

E. Hilty, Mgr.

EMPLOYMENT

Positions Vacant. 266, 267
Selling Opportunities Offered. 267
Positions Wanted. 266, 267
Employment Services. 267

BUSINESS OPPORTUNITIES

Offered. 271

PROPERTY

For Sale. 271

EQUIPMENT

(Used or Surplus New)

For Rent. 271
For Sale. 267-272

ADVERTISERS INDEX

Bialek & Co., Theodore. 271
Blank Co., Inc., A. & M. 268
Blank, Moe. 272
Bresani, Joseph. 268
Briggs & Co., R. A. 270
Collins & Aikman Corp. 268
Concordia Mfg. Co., Inc. 271
Durkee-Atwood Co. 269
Electric Equipment Co. 268
Fitzgerald, James F. 272
Gaines Textile Machinery Co., Inc. 272
Harrill, E. A. 268
Industrial Products of America. 271
Interstate Textile Equipment Co. 270
Machinery Sales Corp. 272
McDowell Associates Inc. 269
Miller Machinery Co. 270
New England Products Co. 270
Peennsylvania Spool & Equipment Co. 270
Rabinowitz & Sons, Wm. 267
Raymond Service Inc., Chas. P. 266, 267
Republic Textile Equipment Co. 269
Schlegel Manufacturing Co. 268
Southern Textile Works. 268
Stave & Kessler. 270
Textile Auxiliaries. 271
Textile Atlantico Limitada. 267

ENGINEERING
SCHEDULES
YOUR
BUSINESS
JOURNEY

Engineers for 54 years . . . J. E. SIRRINE COMPANY

GREENVILLE • SOUTH CAROLINA

A DEPARTMENTALIZED ENGINEERING ORGANIZATION SERVING BUSINESS, COMMERCE AND INDUSTRY

STAZON HERE...

STAYS OFF HERE!

BIG THING to remember about *Texaco Stazon* is that it *stays on* the bearing surfaces — does not creep, splatter or drip. Use it for top rolls, saddles, roll stands or shell roll mandrels and get cleaner yarn. Use it for loom crank and cam shaft bearings and cloth comes through without oil stain.

Texaco Stazon has other advantages, too: It is not affected by humidity, and will not form gummy deposits. It is easily applied and feeds properly in any lubricating system — a long-lasting lubricant that requires fewer applications.

For spindle lubrication, use *Texaco Spindura Oil* and increase production of cleaner, smoother yarn. For fibre conditioning, use *Texaco Texspray Compound* and get stronger yarn of more uniform count.

Let a Texaco Lubrication Engineer help you in every department of your mill. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY